


1. General Description
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8. MT Gear Shift Lever
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CONTROL SYSTEMS > General Description

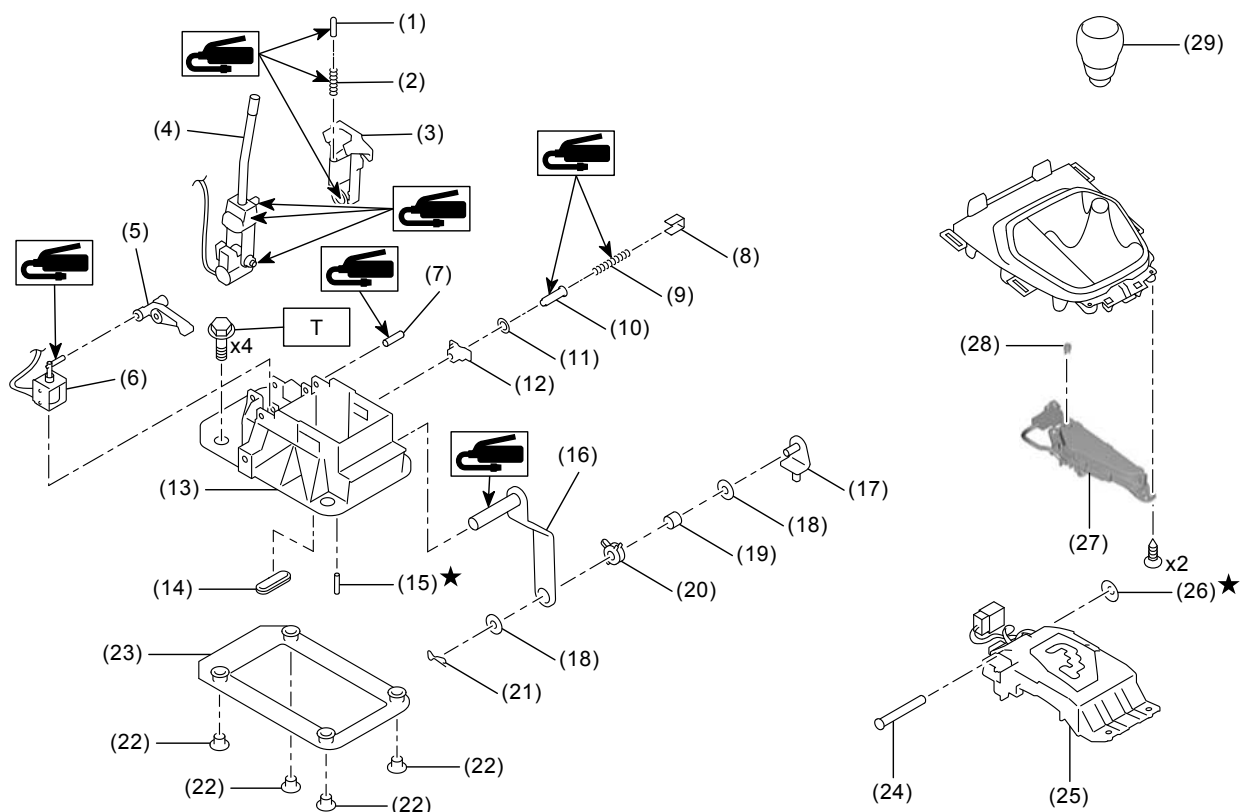
CAUTION

- When performing service operation, refer to "Repair Contents" in "General Description".  [Ref. to REPAIR CONTENTS>Repair Contents.](#)
- Prior to starting work, pay special attention to the following:
 1. Always wear work clothes, a work cap, and protective shoes. Additionally, wear a helmet, protective goggles, etc. if necessary.
 2. Protect the vehicle using a seat cover, fender cover, etc.
 3. Prepare the service tools, clean cloth, containers to catch grease and oil, etc.
- Prevent scattering of grease and oil. If it scatters, wipe it off immediately to prevent it from penetrating the floor or flowing out, to protect the environmental.
- If the grease and oil is spilt over the engine, exhaust pipe or the under cover, completely wipe it off to avoid emission of smoke or causing a fire.
- Vehicle components are extremely hot immediately after driving. Be wary of receiving burns from heated parts.
- When performing a repair, identify the cause of trouble and avoid unnecessary work.
- Before disconnecting connectors of sensors or units, be sure to disconnect the ground terminal from the battery sensor.
- Always use the jack-up point when the lifting device, shop jacks or rigid racks are used to support the vehicle.
- Before starting works, remove dirt and corrosion around the target area.
- Keep the removed parts in order and protect them from dust and dirt.
- All removed parts, if to be reused, should be reinstalled in the original positions with attention to the correct directions, etc.
- For the parts except for the non-reusable parts, replace them with new parts if necessary.
- Be sure to tighten bolts and nuts to the specified torque.

CONTROL SYSTEMS > General Description

COMPONENT

1. SELECT LEVER




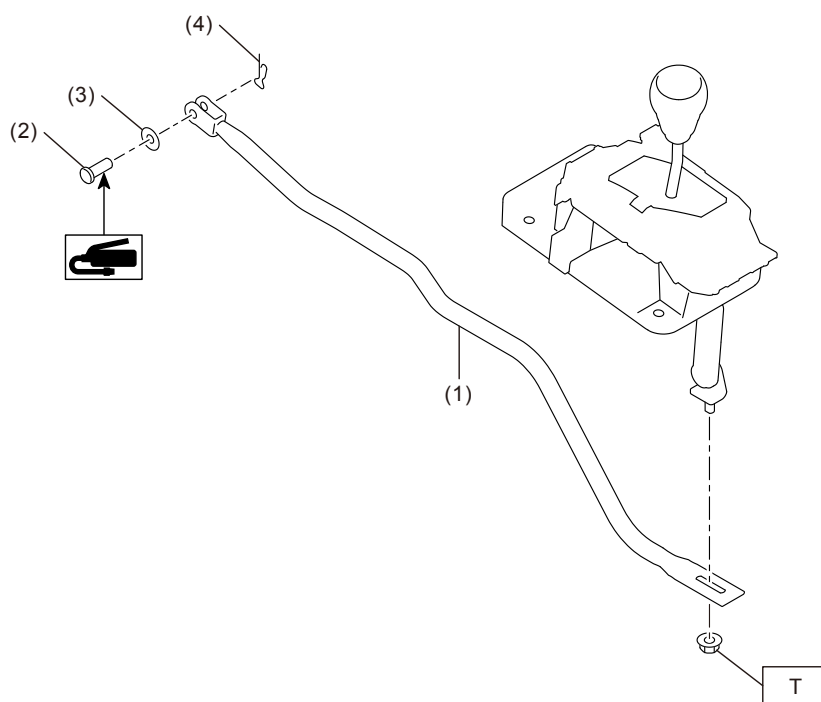
CS-10579

- | | | |
|-------------------------|-----------------|----------------------|
| (1) Rod | (12) Bushing | (23) Gasket |
| (2) Spring | (13) Plate | (24) Shaft guide pin |
| (3) Arm bracket | (14) Grommet | (25) Guide plate |
| (4) Lever | (15) Spring pin | (26) Clamp push nut |
| (5) Lock plate | (16) Arm | (27) Indicator |
| (6) Shift lock solenoid | (17) Swivel | (28) Button cover |
| (7) Pin | (18) Washer | (29) Grip |
| (8) Clamp | (19) Spacer | |
| (9) Spring | (20) Bushing | |
| (10) Rod | (21) Snap pin | |
| (11) Cushion | (22) Spacer | |

2. SELECT LEVER ROD

Tightening torque: N·m (kgf-m, ft-lb)

T:  **Ref. to CONTROL SYSTEMS>Select Lever>INSTALLATION.**



CS-10557

(1) Select lever rod

(3) Wave washer*

Tightening torque: N·m (kgf-m, ft-lb)

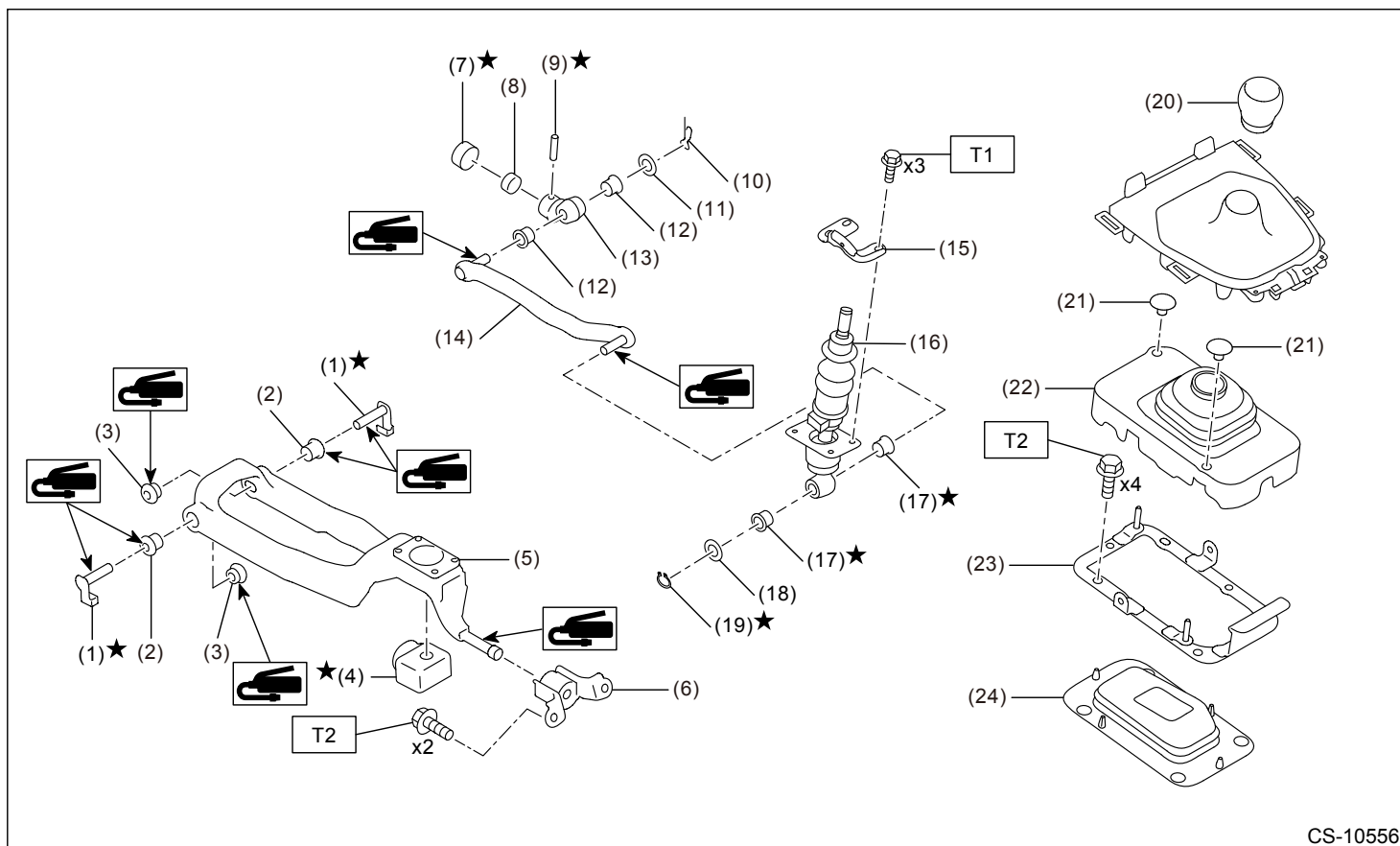
(2) Shaft*

(4) Snap pin

T: 18 (1.8, 13.3)

*: The shaft and the wave washer are set parts.

3. MT GEAR SHIFT LEVER & MT GEAR SHIFT ROD



- | | |
|----------------------------|--------------------------|
| (1) Shift retainer pin | (11) Washer |
| (2) Outer bushing | (12) Collar |
| (3) Inner bushing | (13) Joint |
| (4) Boot | (14) MT gear shift rod |
| (5) Shift retainer | (15) Stopper |
| (6) Shift retainer bushing | (16) MT gear shift lever |
| (7) Clamp | (17) Collar |
| (8) Cushion | (18) Washer |
| (9) Pin | (19) Snap ring |
| (10) Snap pin | (20) Shift knob |

- | |
|----------------|
| (21) Clamp |
| (22) Insulator |
| (23) Plate |
| (24) Boot |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 7.5 (0.8, 5.5)

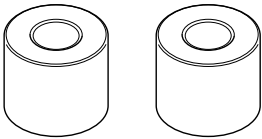

T2: 18 (1.8, 13.3)

CONTROL SYSTEMS > General Description

PREPARATION TOOL

1. SUBARU SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
	18362AA020	ADAPTER	Used for installing the MT gear shift rod.

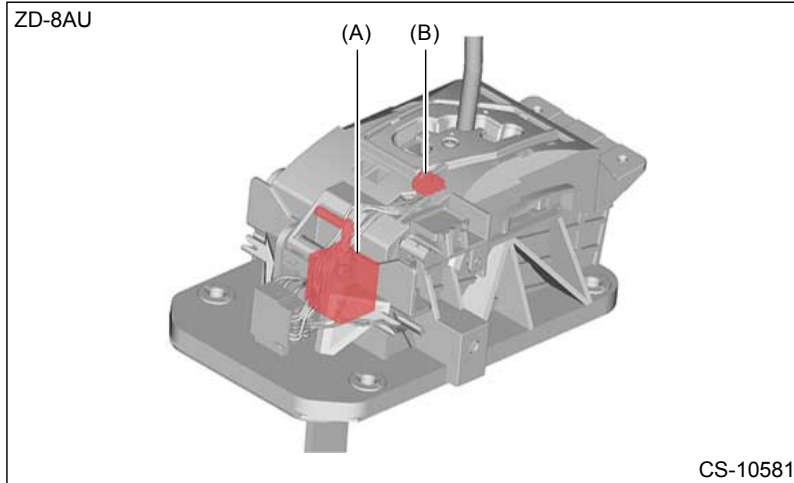
 <p>ST18362AA020</p>			
 <p>STSSM4</p>	—	SUBARU SELECT MONITOR 4	<p>Used for setting of each function and troubleshooting for electrical system.</p> <p>Note:</p> <ul style="list-style-type: none"> • For detailed operation procedures, refer to “Help” of application. • Used together with interface for Subaru Select Monitor (such as DST-i and DST-010).

2. OTHER

	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.
Thickness gauge	Used for adjusting select lever.
KTC connector terminal tool (part number: ECC-1T)	<p>Used for pulling out the terminals.</p> <p>Note: A flat tip precision screwdriver with a tip width of 1.3 mm (0.05 in) or less can also be used.</p>

CONTROL SYSTEMS > Shift Lock Control System

LOCATION



(A) Shift lock solenoid

(B) "P range" switch


INSPECTION

1. CHECK SHIFT LOCK CONTROL SYSTEM

Trouble symptom:


The select lever cannot be shifted from P range.

Note:

Before checking DTC, perform the "Basic Diagnostic Procedure" of "BODY CONTROL (DIAGNOSTICS)".  [Ref. to BODY CONTROL\(DIAGNOSTICS\)>Basic Diagnostic Procedure.](#)

1. CHECK DTC.



1. Turn the ignition switch to ON.
2. Using the Subaru Select Monitor, read all DTCs.  [Ref. to LAN SYSTEM \(DIAGNOSTICS\)>Diagnostic Trouble Code \(DTC\).](#)

Is DTC displayed?

Yes


Perform the diagnosis for the displayed DTCs.

No

 [Go to 2.](#)

2. CHECK BODY INTEGRATED UNIT CUSTOMIZATION.



Using Subaru Select Monitor, make sure the [Customize] settings of [Body Control] correspond to the vehicle.  [Ref. to BODY CONTROL\(DIAGNOSTICS\)>Customize.](#)

Is the setting of [MT/AT Setting] equal to "AT"?

Yes


 [Go to 3.](#)

No

Set to "AT".

3. CHECK DATA MONITOR.




Using Subaru Select Monitor, display [Stop Light Switch] in [Data monitor] of [Body Control].  [Ref. to COMMON \(DIAGNOSTICS\)>Data Monitor.](#)

Does the [Stop Light Switch] display change according to brake pedal operation?

Yes


 [Go to 4.](#)

No

Check the stop light system.  [Ref. to LIGHTING SYSTEM>Stop Light System.](#)


4. CHECK DTC.



1. Maintain the brake pedal depressed for one second or more.
2. Read the DTC of [Body Control] using the Subaru Select Monitor.  [Ref. to COMMON \(DIAGNOSTICS\)>Diagnostic Trouble Code \(DTC\).](#)

Is DTC B1016 displayed? (Current code)

Yes


Perform the diagnosis for DTC B1016.  [Ref. to BODY CONTROL\(DIAGNOSTICS\)>Diagnostic Trouble Code \(DTC\).](#)

No

 [Go to 5.](#)

5. CHECK DATA MONITOR.



Using Subaru Select Monitor, display [Shift Position] in [Data monitor] of [Body Control].  [Ref. to COMMON \(DIAGNOSTICS\)>Data Monitor>OPERATION.](#)

Is "P" displayed?

Yes


 [Go to 8.](#)

No

 [Go to 6.](#)

6. CHECK "P RANGE" SWITCH.




Check the "P range" switch.  [Ref. to CONTROL SYSTEMS>Shift Lock Solenoid and P Range Switch>INSPECTION.](#)

Is the check result OK?

Yes


 [Go to 7.](#)

No

Replace the "P range" switch.  [Ref. to CONTROL SYSTEMS>Shift Lock Solenoid and P Range Switch.](#)

7. CHECK HARNESS.



Check the harness for "P range" switch lines.  [Ref. to WIRING SYSTEM>Shift Lock Control System>WIRING DIAGRAM.](#)

Is the check result OK?

Yes

 [Go to 8.](#)

No

Repair or replace the harness.

8. CHECK SELECT LEVER ROD.



Check the installation condition of the select lever rod.

Is the installation condition OK?

Yes

 [Go to 9.](#)

No


Install the select lever rod properly.

Note:

Make sure there is no bend or damage on the select lever rod.


9. CHECK SELECT LEVER.




1. Disconnect the select lever rod from the transmission main body.  [Ref. to CONTROL SYSTEMS>Select Lever Rod>REMOVAL.](#)
2. Shift the select lever to another range.

Does the select lever shift?

Yes


Repair the transmission body.  [Ref. to AUTOMATIC TRANSMISSION>Transmission Assembly>REMOVAL.](#)

No

 [Go to 10.](#)


10. CHECK SELECT LEVER.



Check the select lever.  [Ref. to CONTROL SYSTEMS>Select Lever.](#)

Is the check result OK?

Yes

Replace the keyless access CM.  [Ref. to SECURITY AND LOCKS>Keyless Access CM.](#)


No

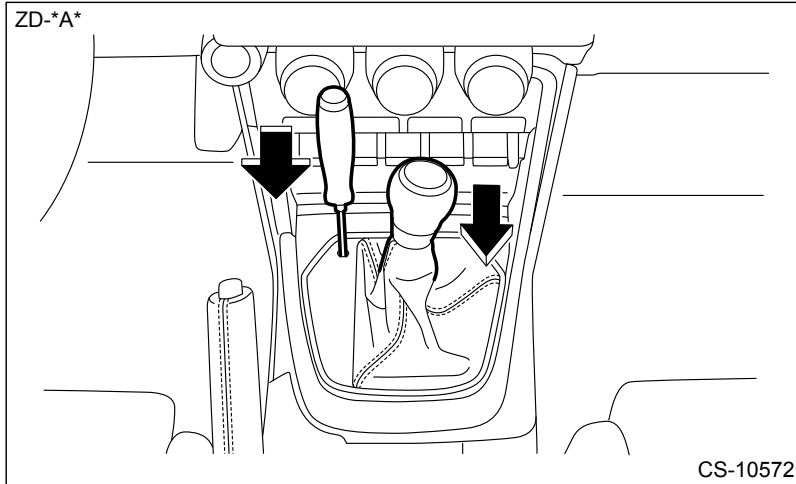
Replace the select lever.  [Ref. to CONTROL SYSTEMS>Select Lever.](#)

REMOVAL

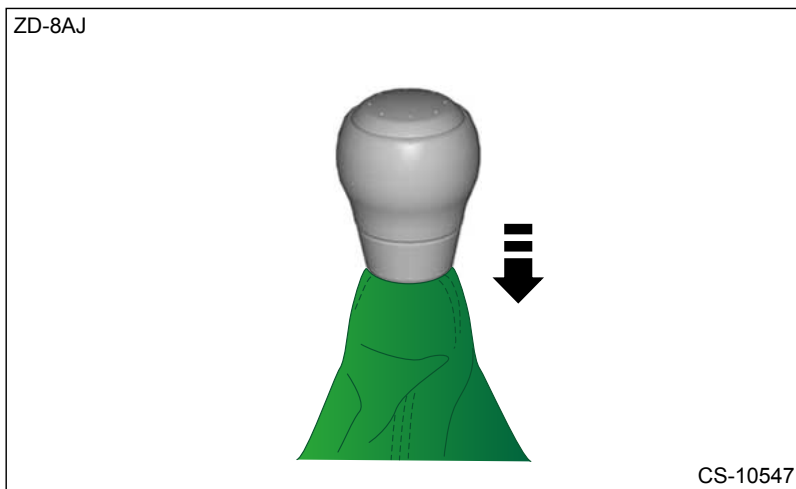


1. SELECT LEVER

1. Disconnect the ground terminal from battery sensor.  [Ref. to REPAIR CONTENTS>NOTE > BATTERY.](#)
2. Release the shift lock using a screwdriver, etc. and shift the select lever to the "N range".



3. Lower the boot.




4. Remove the grip by turning it counterclockwise.

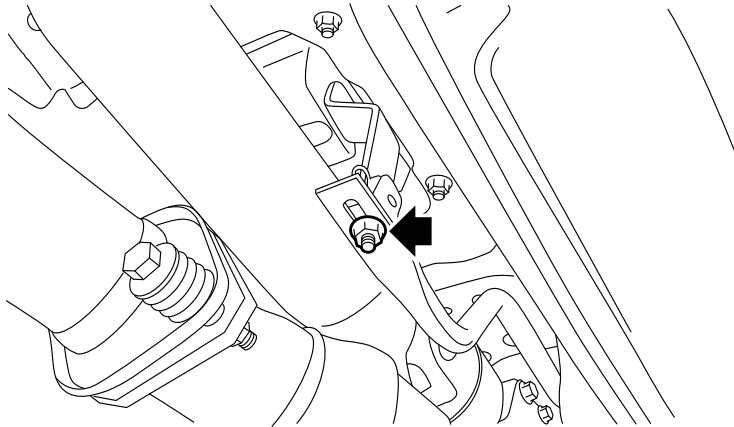
ZD-8AJ



CS-10548

5. Remove the console box assembly and cover center side.  [Ref. to EXTERIOR/INTERIOR TRIM>Center Console>REMOVAL.](#)
6. Disconnect the select lever and the select lever rod.

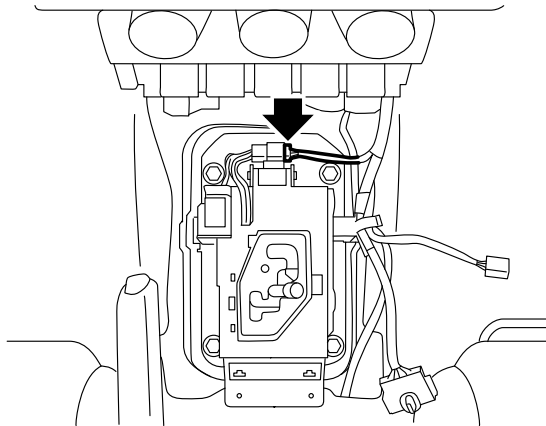
ZD-8AJ



CS-10487

7. Disconnect the connector.

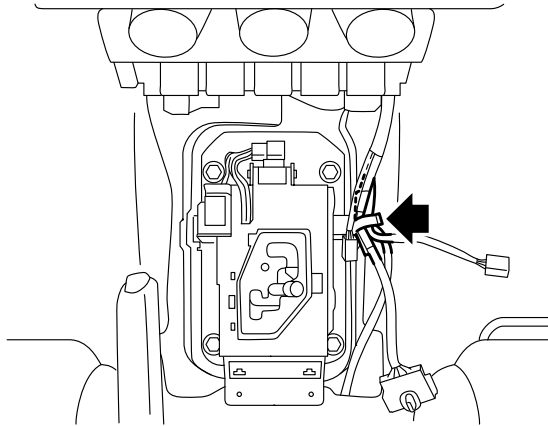
ZD-*A*



CS-10569

8. Remove the clips securing the harness.

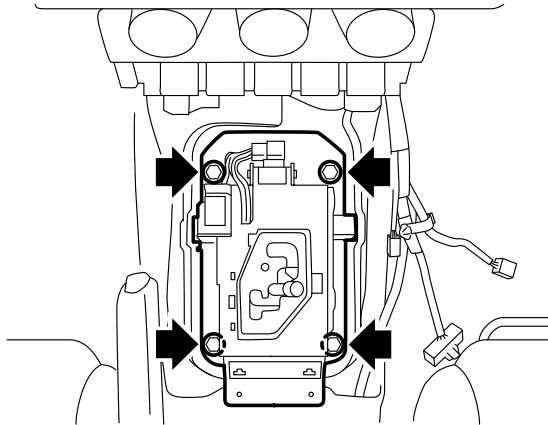
ZD-*A*



CS-10570



9. Remove the select lever.

ZD-*A*

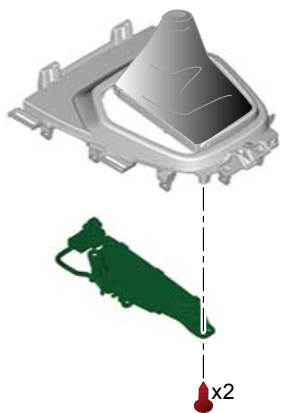


CS-10571

2. INDICATOR

- 1.** Disconnect the ground terminal from battery sensor.  [Ref. to REPAIR CONTENTS>NOTE > BATTERY.](#)
- 2.** Remove the cover assembly front.  [Ref. to EXTERIOR/INTERIOR TRIM>Console Box>REMOVAL.](#)
- 3.** Remove the indicator from the cover assembly front.

ZD-*A*



CS-10587

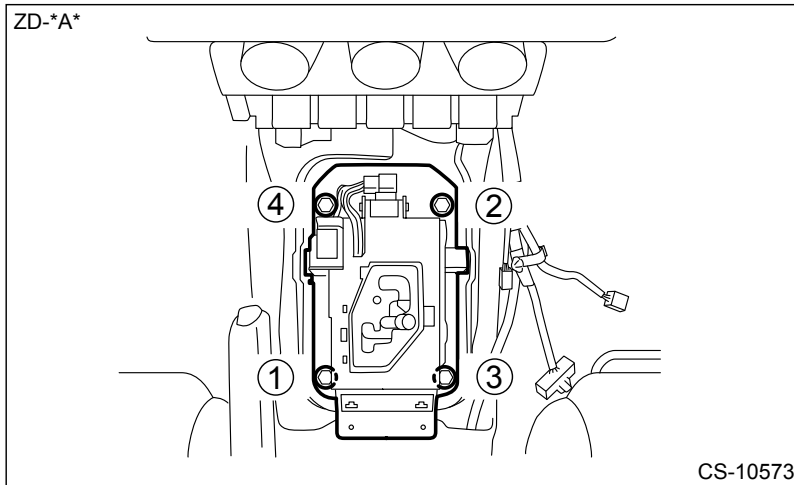
INSTALLATION



1. SELECT LEVER

1. Temporarily install the select lever.
2. Tighten the bolts in the numerical order as shown in the figure.

Tightening torque:

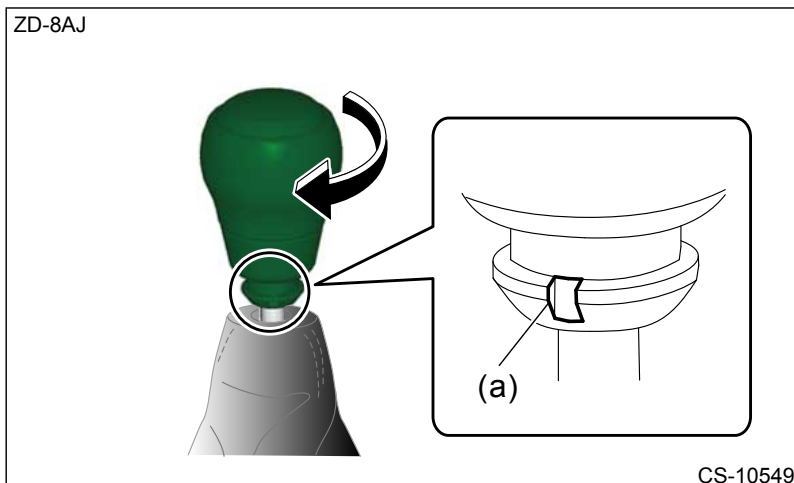
18 N·m (1.8 kgf-m, 13.3 ft-lb)



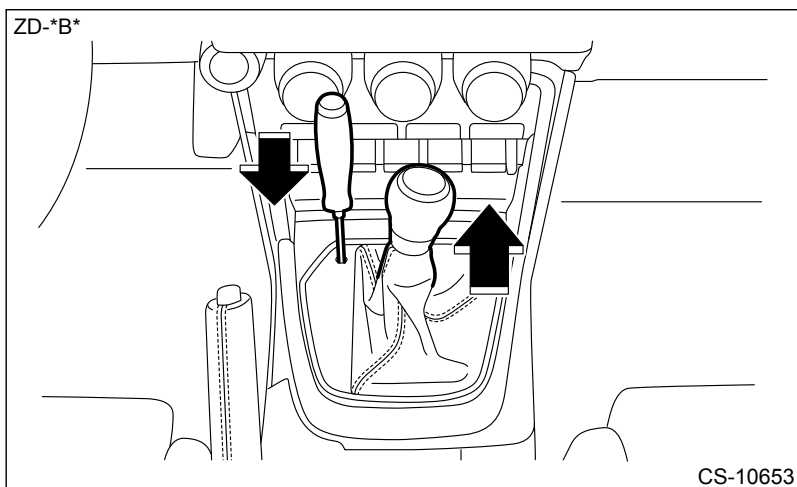
3. Install the clip securing the harness.
4. Connect the connector.
5. Adjust the select lever.  [Ref. to CONTROL SYSTEMS>Select Lever>ADJUSTMENT.](#)
6. Install the cover center side and the console box assembly.  [Ref. to EXTERIOR/INTERIOR TRIM>Center Console>INSTALLATION.](#)
7. Install the grip by turning it clockwise.


Note:

- Tighten to the extent where the grip does not rotate during shift operation.
- Align the grip notch (a) toward the rear of the vehicle while turning in the tightening direction.





8. Install the boot.
9. Release the shift lock using a screwdriver, etc. and shift the select lever to the "P range".



10. Connect the ground terminal to battery sensor.  [Ref. to REPAIR CONTENTS>NOTE > BATTERY.](#)

2. INDICATOR

- 1.** Install the indicator to the cover assembly front.
- 2.** Install the cover assembly front.  [Ref. to EXTERIOR/INTERIOR TRIM>Console Box>INSTALLATION.](#)
- 3.** Connect the ground terminal to battery sensor.  [Ref. to REPAIR CONTENTS>NOTE > BATTERY.](#)

CONTROL SYSTEMS > Select Lever

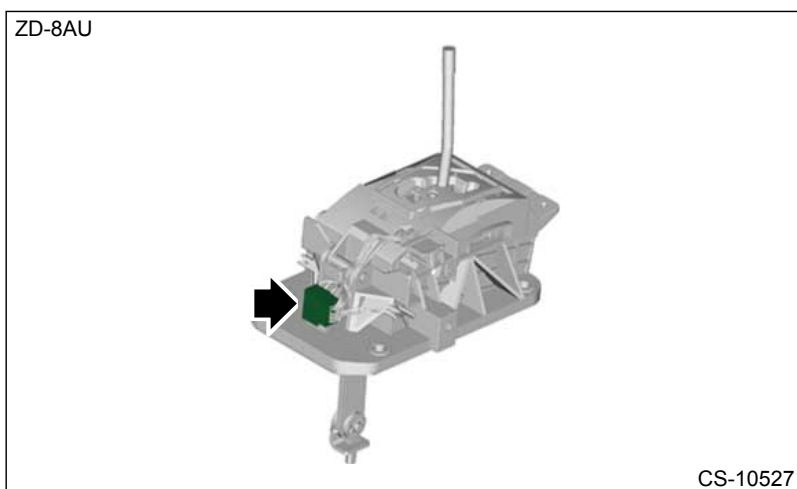
DISASSEMBLY



Note:

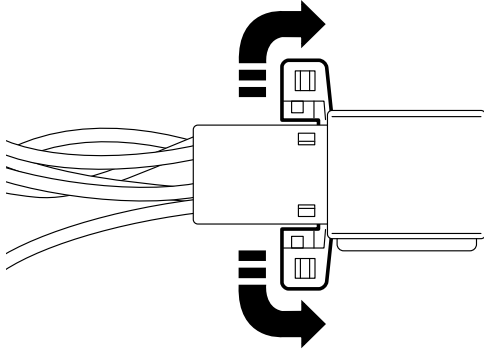
The "P range" switch and the manual mode switch are integrated with the guide plate.

- 1.** Remove the connector.



- 2.** Unlock the connector.

ZD-*AJ



CS-10517

3. Pull out the shift lock solenoid terminal using a flat tip screwdriver, etc.

ZC-6**

6	5	4			3	2	1
14	13	12	11	10	9	8	7

CS-10516

Terminal No.	Wiring color
4	Blue
5	Black

4. Pull out the manual mode switch terminal using a flat tip screwdriver, etc.

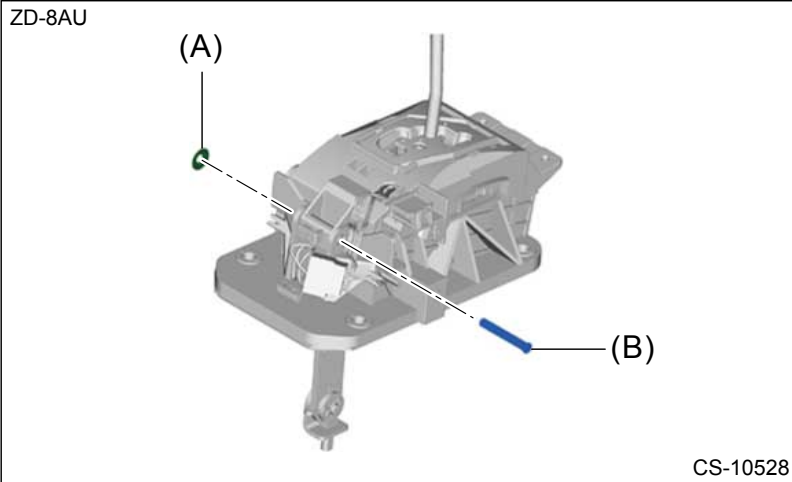
ZC-6**

6	5	4			3	2	1
14	13	12	11	10	9	8	7

CS-10516

Terminal No.	Wiring color
10	White
11	Black

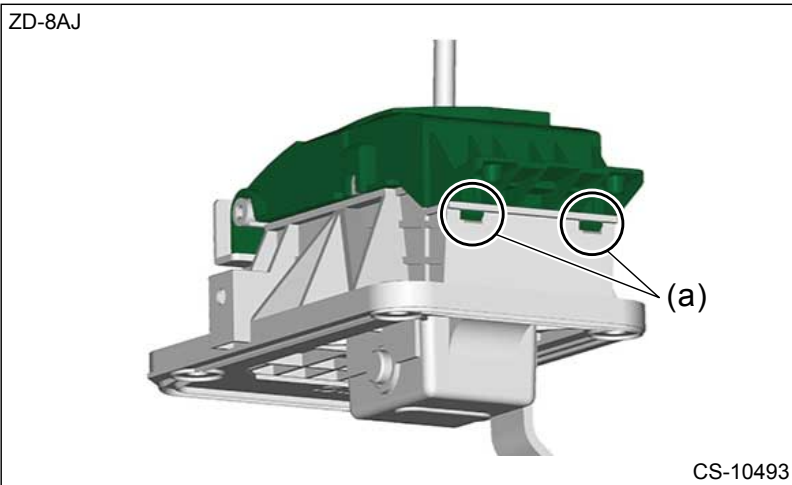
5. Remove the clamp push nut and then remove the shaft guide pin.



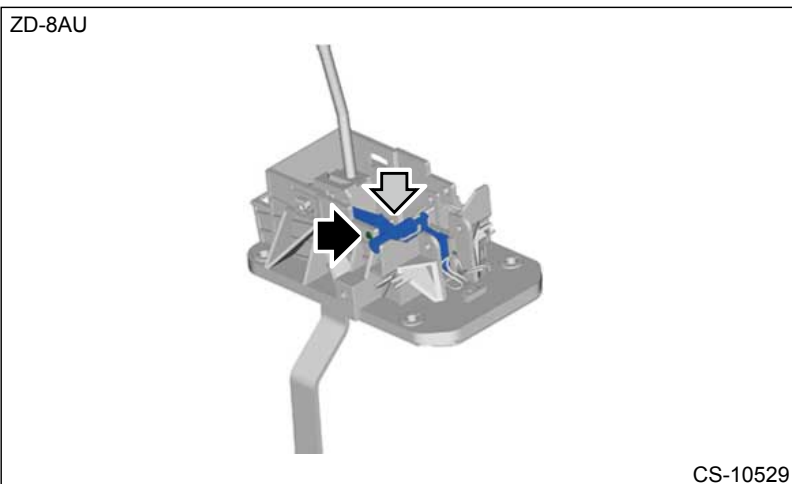
6. Remove the guide plate.

Note:

Release the claw (a).

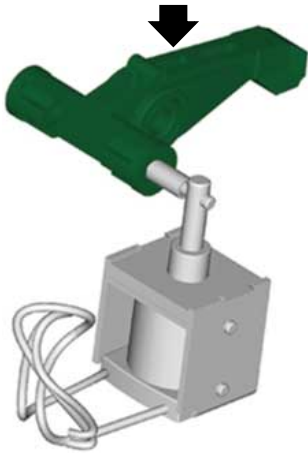


7. Remove the pin, and then remove the lock plate and the shift lock solenoid as a unit.



8. Remove the lock plate from the shift lock solenoid.

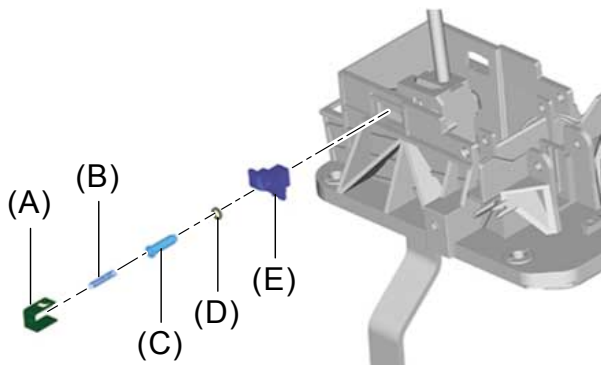
ZD-8AU



CS-10582

9. Remove the clamp, spring, rod, cushion, and bushing.

ZD-8AU



CS-10530

(A) Clamp

(B) Spring

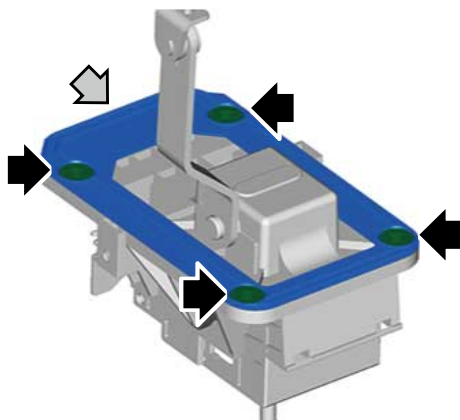
(C) Rod

(D) Cushion

(E) Bushing

10. Remove the spacer and gasket.

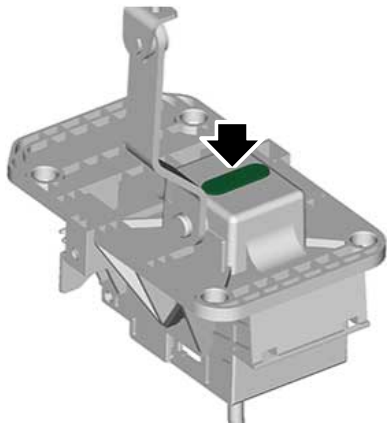
ZD-8AJ



CS-10496

11. Remove the grommet.

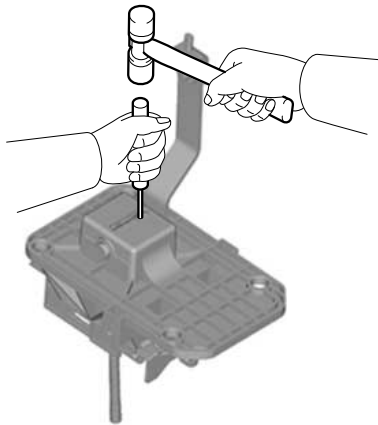
ZD-8AJ



CS-10497

12. Use a pin punch and a hammer to remove the spring pin.

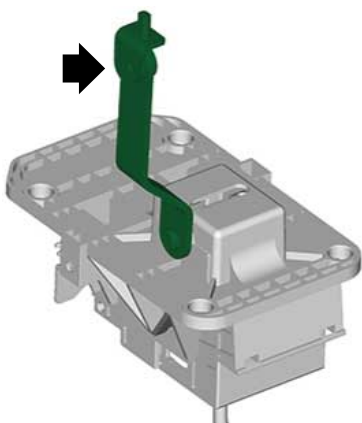
ZD-8AU



CS-10523

13. Remove the arm.

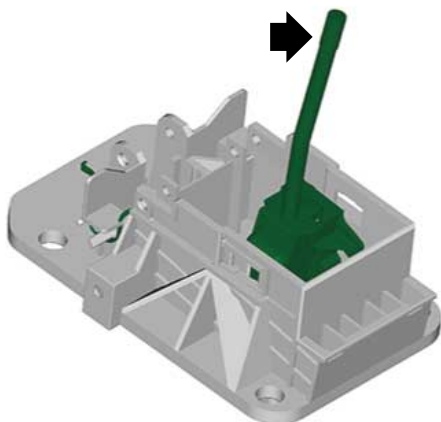
ZD-8AJ



CS-10500

14. Remove the arm bracket and lever as a unit.

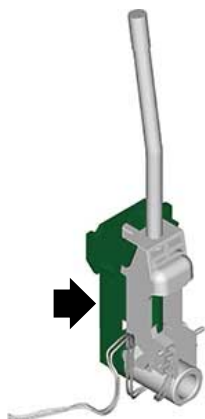
ZD-8AU



CS-10524

15. Remove the arm bracket.

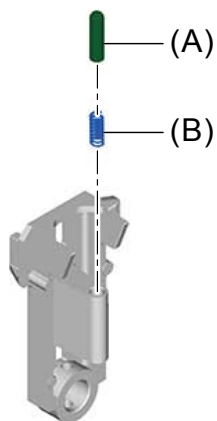
ZD-8AU



CS-10525

16. Remove the rod and spring.

ZD-*A*

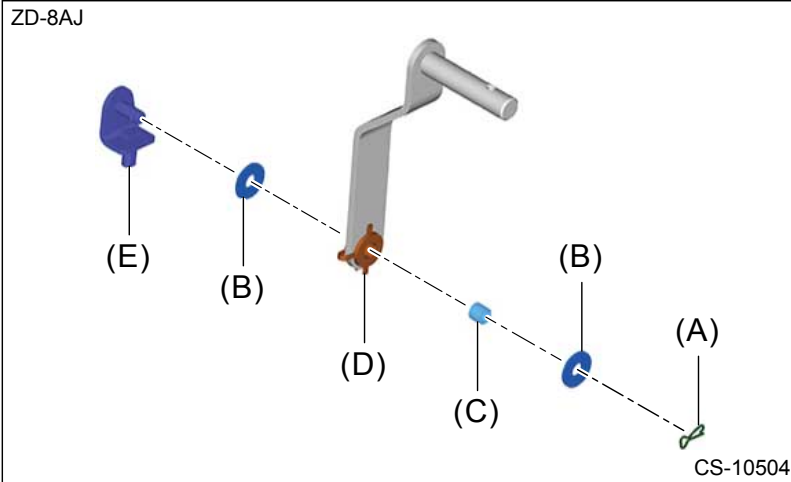


CS-10526

(A) Rod

(B) Spring

17. Remove the snap pin, washers, spacer, bushing, and swivel from the arm.



(A) Snap pin

(B) Washer

(C) Spacer

(D) Bushing

(E) Swivel

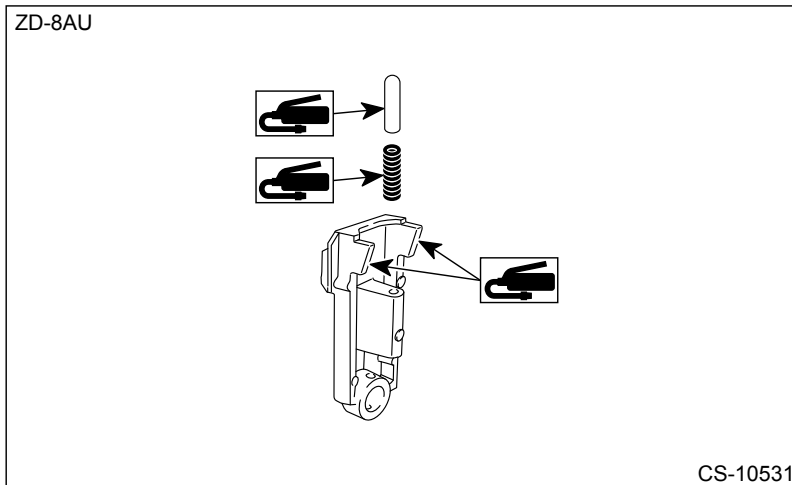
CONTROL SYSTEMS > Select Lever

ASSEMBLY

1. Install the swivel, bushing, spacer, washer, and snap pin to the arm.
2. Apply grease to the arm bracket, rod, and spring.

Preparation items:

Grease: Multemp D No. 2 or equivalent

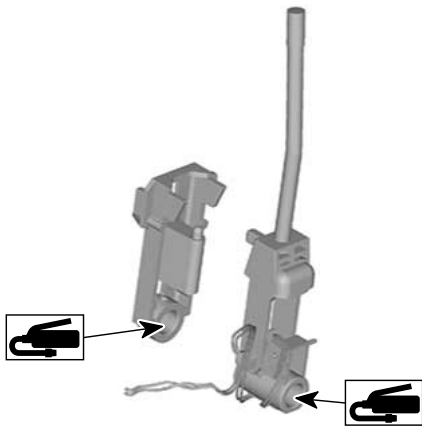


3. Install the rod and the spring.
4. Apply grease to the lever and the arm bracket.

Preparation items:

Grease: Multemp D No. 2 or equivalent

ZD-8AU



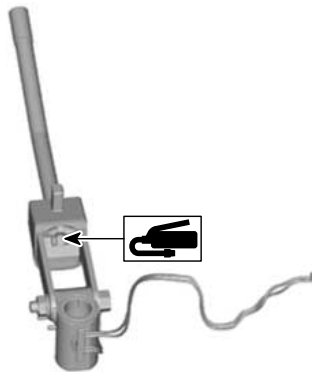
CS-10485

- 5.** Apply grease to the sliding surface of the rod and install the arm bracket.

Preparation items:

Grease: Multemp D No. 2 or equivalent

ZD-8AU



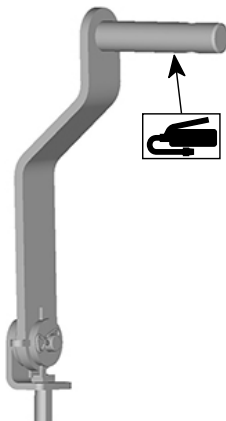
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- 6.** Set the lever and the arm bracket as a set.
7. Apply grease to the arm.

Preparation items:

Grease: Multemp D No. 2 or equivalent

ZD-8AJ



CS-10561

- 8.** Install the arm.

9. Use a pin punch and a hammer to install the spring pin.

Caution:

Always use a new spring pin.

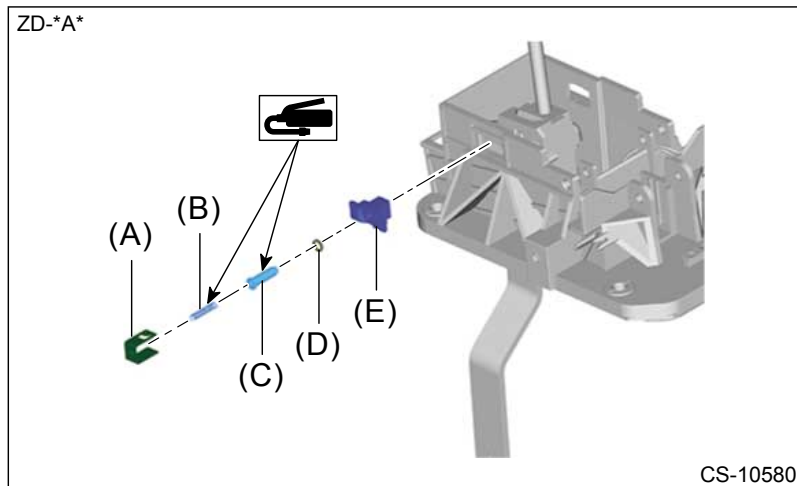
10. Install the grommet.
11. Install the gasket and spacer.
12. Install the bushing, cushion, rod, spring, and clamp.

Note:

Apply grease to the spring and the rod.

Preparation items:

Grease: Multemp D No. 2 or equivalent



(A) Clamp
(B) Spring

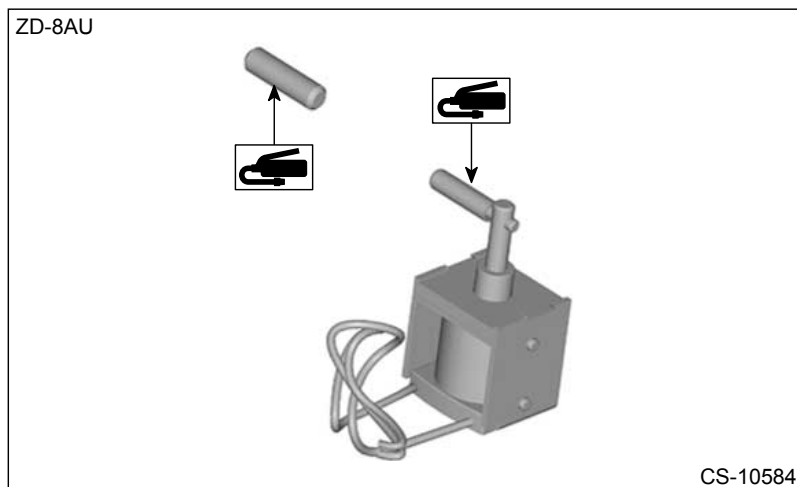
(C) Rod
(D) Cushion

(E) Bushing

13. Apply grease to the shift lock solenoid and the pin.

Preparation items:

Grease: Multemp D No. 2 or equivalent

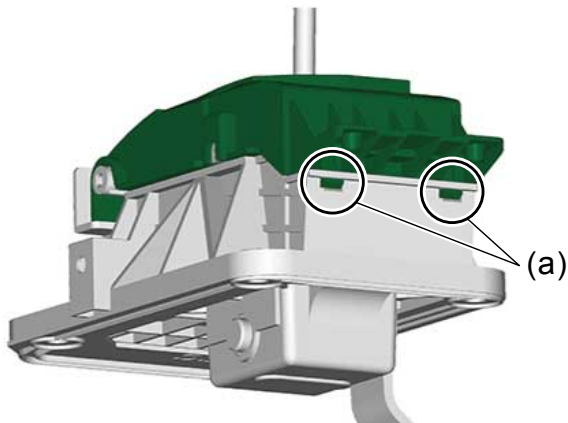


14. Install the shift lock solenoid and the lock plate as a unit, and then install the pin.
15. Install the guide plate.

Note:

Make sure the claws (a) are securely engaged.

ZD-8AJ



CS-10493

- 16.** Install the clamp push nut and the shaft guide pin.

Caution:

Always use a new clamp push nut.

- 17.** Connect the shift lock solenoid terminal.

ZC-6**

6	5	4			3	2	1
14	13	12	11	10	9	8	7

CS-10516

Terminal No.	Wiring color
4	Blue
5	Black

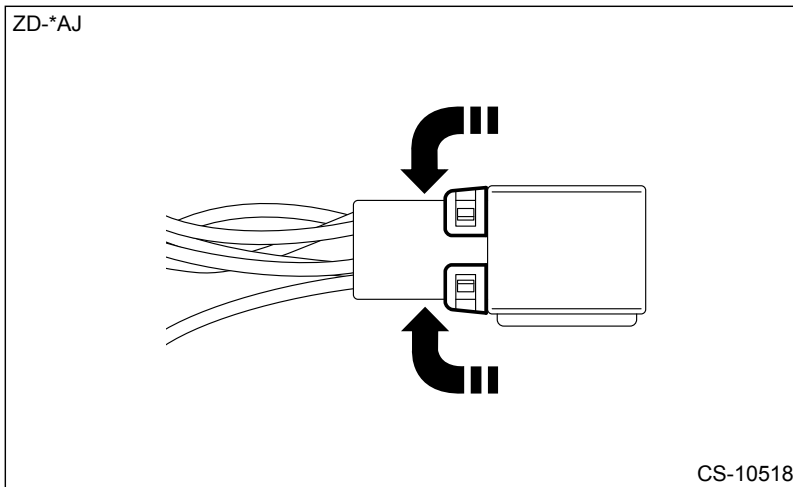
- 18.** Connect the manual mode switch terminal.

ZC-6**

6	5	4			3	2	1
14	13	12	11	10	9	8	7

CS-10516

Terminal No.	Wiring color
10	White

19. Lock the connector.**20.** Install the connector.**CONTROL SYSTEMS > Select Lever****INSPECTION****1. SELECT LEVER**

- 1.** Check that there is no deformation, cracks or other damages.
- 2.** Check select lever operation.
 - (1) Check that the select lever does not shift from "P range" to other ranges.
 - (2) Check that the select lever shifts from the "P range" to other ranges with the shift lock released.
 - (3) Start the engine.
 - (4) Shift to each range and check the following items.

Warning:

Confirm safety in the vicinity and make sure no person is around the vehicle.


- The select lever moves smoothly to each range without interference.
- The position indicator displays correctly.
- The vehicle moves forward when shifted to "D range".
- The vehicle moves backward when shifted to "R range".

2. INDICATOR

- 1.** Check that there is no deformation, cracks or other damages.
- 2.** Turn the ignition and headlight switches on and check that the illumination light illuminates.
- 3.** Check the position pointer that corresponds to the select lever position illuminates.

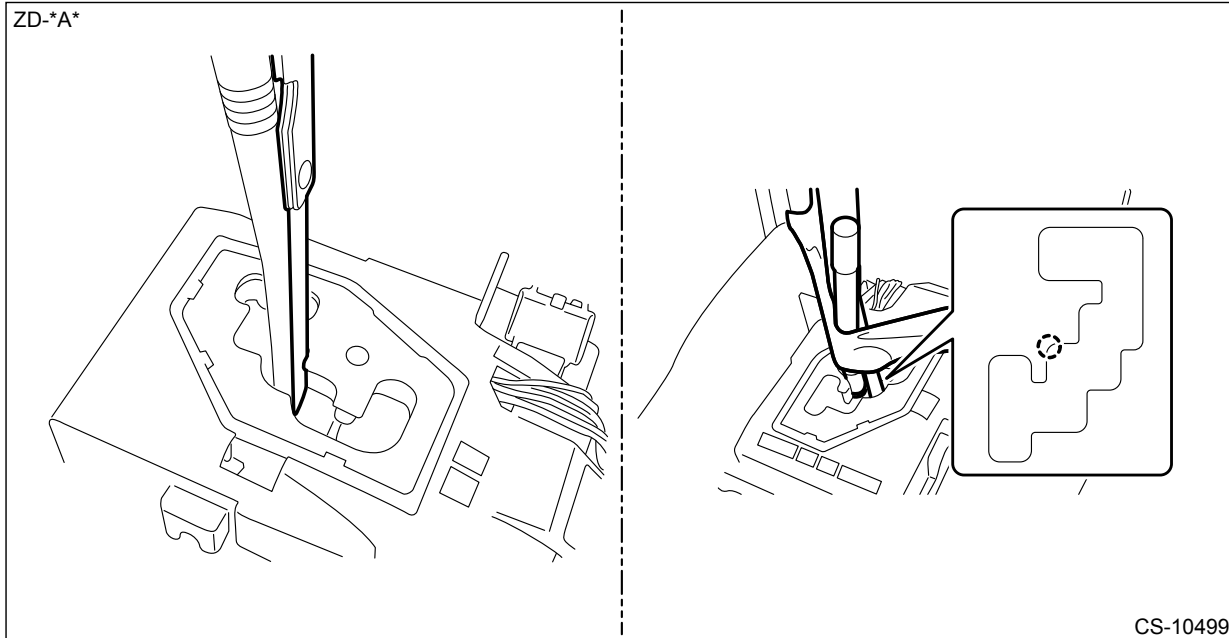
CONTROL SYSTEMS > Select Lever**ADJUSTMENT**

- 1.** Disconnect the ground terminal from battery sensor.  [Ref. to REPAIR CONTENTS>NOTE > BATTERY.](#)

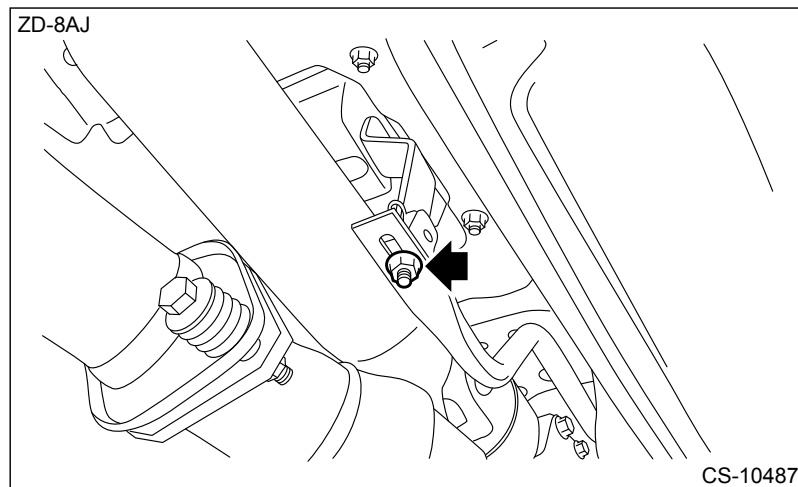
2. Remove the cover assembly front.  [Ref. to EXTERIOR/INTERIOR TRIM>Console Box>REMOVAL.](#)
3. Insert a 0.5 mm (0.02 in) thickness gauge between the select lever and the guide plate, and secure it with tape, etc.

Caution:

Set so that the thickness gauge does not come in contact with the section shown in the figure.

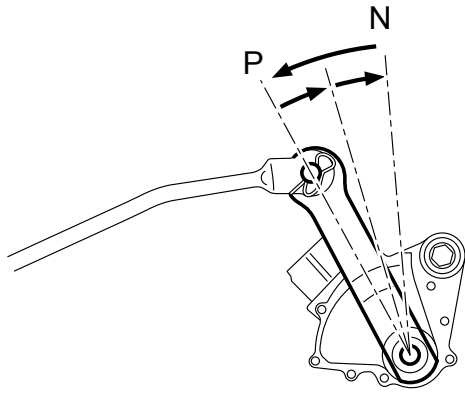


4. Disconnect the select lever and the select lever rod.



5. Pull the select lever rod toward the rear of the vehicle until it stops, then put it back 2 steps (to N range).

ZD-8AJ



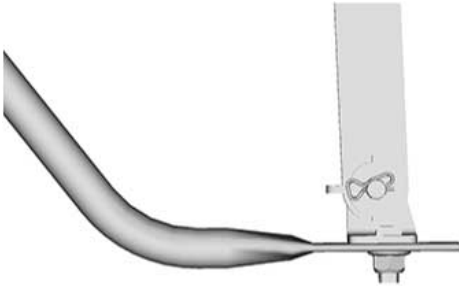
CS-10522

6. Connect the select lever rod and the select lever.

Note:

Make sure that the select lever rod is in close contact with the select lever.

ZD-8AJ

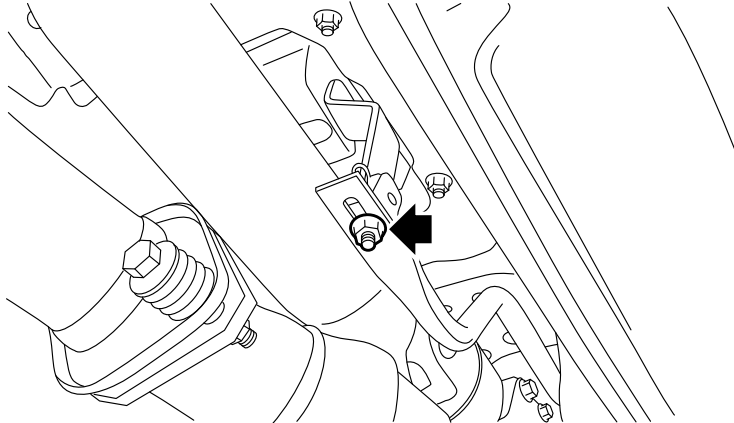


CS-10552

Tightening torque:

18 N·m (1.8 kgf-m, 13.3 ft-lb)

ZD-8AJ



CS-10487

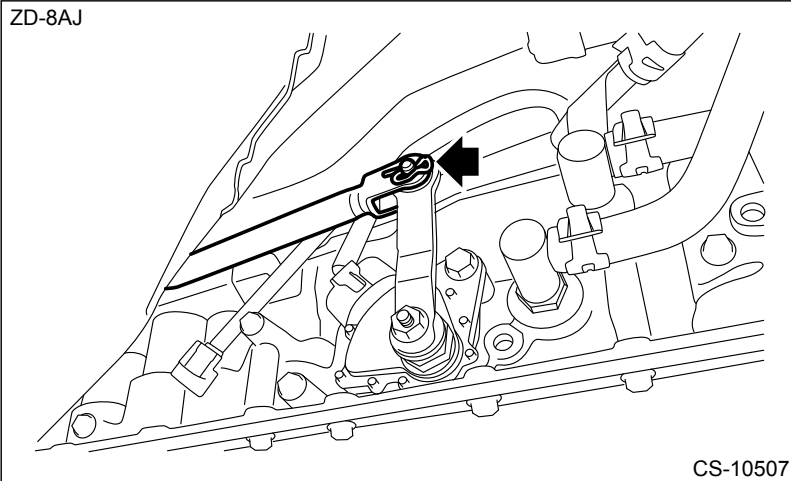
7. Install the cover assembly front.  [Ref. to EXTERIOR/INTERIOR TRIM>Console Box>INSTALLATION.](#)
8. Connect the ground terminal to battery sensor.  [Ref. to REPAIR CONTENTS>NOTE > BATTERY.](#)

CONTROL SYSTEMS > Select Lever Rod

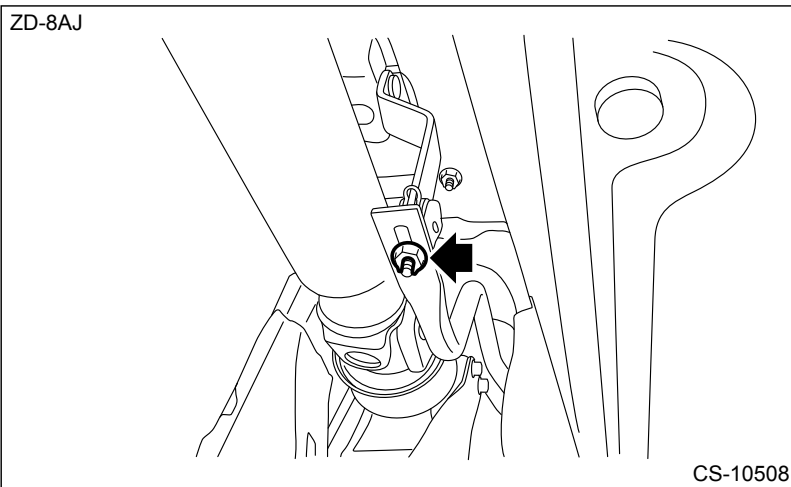
REMOVAL



1. Remove the center exhaust pipe.  [Ref. to EXHAUST\(H4DO\)>Center Exhaust Pipe>REMOVAL.](#)
2. Disconnect the select lever rod.



3. Remove the select lever rod.



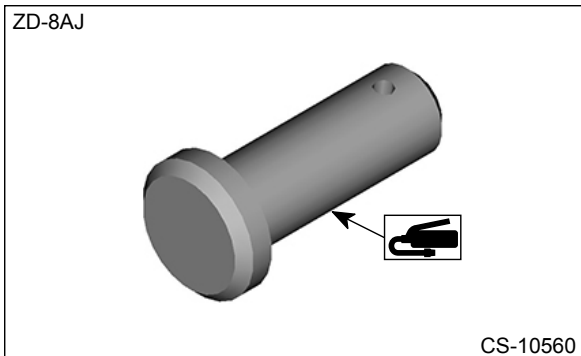
CONTROL SYSTEMS > Select Lever Rod



INSTALLATION

1. Apply grease to the shaft.

Preparation items:

Grease: NIPPON GREASE NIGTIGHT LTS No. 2 or equivalent



2. Connect the select lever rod with the shaft and the wave washer.
3. Install the snap pin.
4. Adjust the select lever.  [Ref. to CONTROL SYSTEMS>Select Lever>ADJUSTMENT.](#)
5. Install the center exhaust pipe.  [Ref. to EXHAUST\(H4DO\)>Center Exhaust Pipe>INSTALLATION.](#)


CONTROL SYSTEMS > Select Lever Rod

INSPECTION

1. Check that there is no deformation, cracks or other damages.
2. Check for excessive rusting.


CONTROL SYSTEMS > Shift Lock Solenoid and P Range Switch

REMOVAL

For removal procedure, refer to "SELECT LEVER".  [Ref. to CONTROL SYSTEMS>Select Lever>DISASSEMBLY.](#)

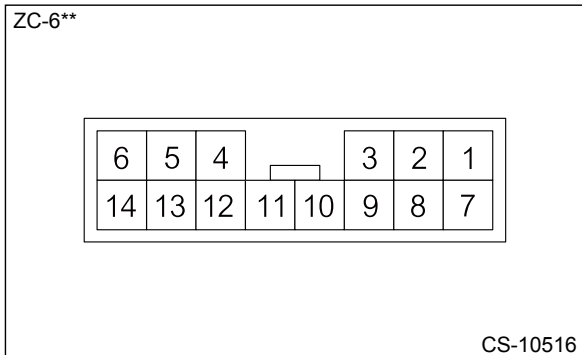
CONTROL SYSTEMS > Shift Lock Solenoid and P Range Switch

INSTALLATION

For installation procedure, refer to "SELECT LEVER".  [Ref. to CONTROL SYSTEMS>Select Lever>ASSEMBLY.](#)

INSPECTION

1. CHECK SHIFT LOCK SOLENOID



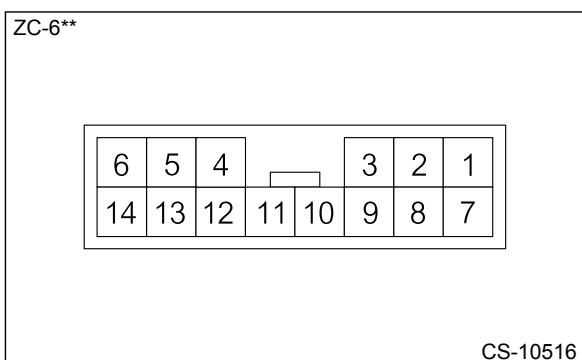
1. Check the resistance between connector terminals.

Terminal No.	Inspection conditions	Standard
4 — 5	20°C	27.6 — 30.5 Ω

2. Perform the operation check.

Terminal No.	Inspection conditions	Judgment standards
4 (+) — 5 (—)	Apply battery voltage between terminals 4 and 5.	The shaft retracts.

2. CHECK "P RANGE" SWITCH




1. Check the resistance between connector terminals.

Terminal No.	Inspection conditions	Standard
2 — 3	P range	Less than 1 Ω
2 — 3	Except for P range	1 MΩ or more


CONTROL SYSTEMS > Manual Mode Switch

REMOVAL

For removal procedure, refer to "SELECT LEVER".  [Ref. to CONTROL SYSTEMS>Select Lever>DISASSEMBLY.](#)

CONTROL SYSTEMS > Manual Mode Switch

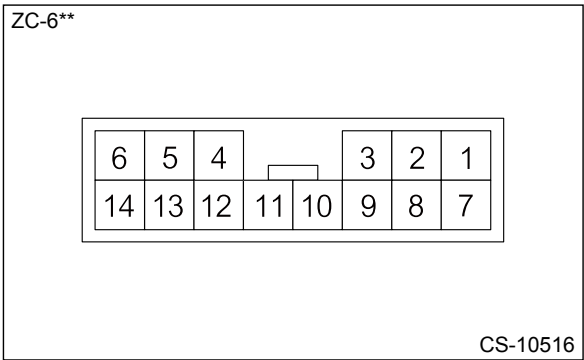
INSTALLATION

For installation procedure, refer to "SELECT LEVER".  [Ref. to CONTROL SYSTEMS>Select Lever>ASSEMBLY.](#)

CONTROL SYSTEMS > Manual Mode Switch

INSPECTION


Check the resistance between connector terminals.



Terminal No.	Inspection conditions	Standard
10 — 11	M range	Less than 1 Ω
8 — 9	M range, when shifted to "+"	
12 — 13	M range, when shifted to "—"	
10 — 11	Except for M range	1 MΩ or more
8 — 9	M range, except for when shifted to "+"	
12 — 13	M range, except for when shifted to "—"	

CONTROL SYSTEMS > Paddle Shift Switch


SPECIFICATION

For the paddle shift switch, refer to "STEERING SWITCH".  [Ref. to POWER ASSISTED SYSTEM \(POWER STEERING\)>Steering Switch.](#)

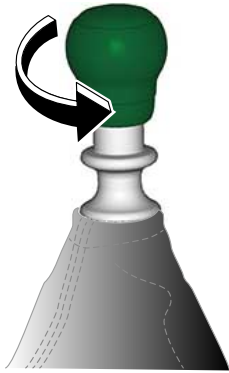
REMOVAL




1. MT GEAR SHIFT LEVER

1. Disconnect the ground terminal from battery sensor.  [Ref. to REPAIR CONTENTS>NOTE > BATTERY.](#)
2. Remove the shift knob by turning it counterclockwise.

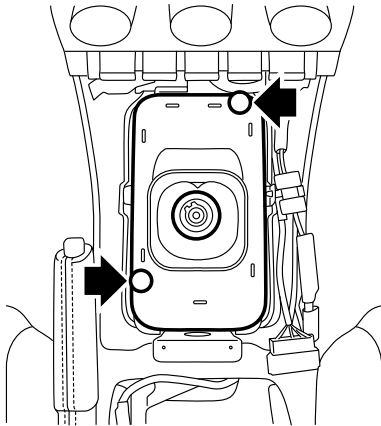
ZD-8AJ



CS-10550

3. Remove the console box assembly and cover center side.  [Ref. to EXTERIOR/INTERIOR TRIM>Center Console>REMOVAL.](#)
4. Remove the insulator.

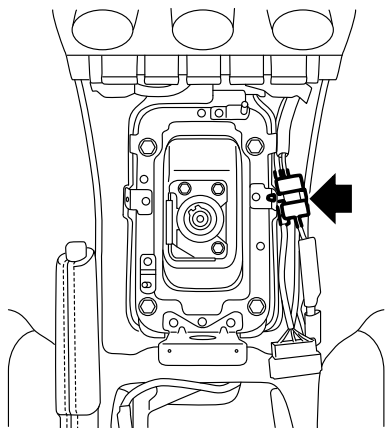
ZD-*A*



CS-10574

5. Remove the clips securing the harness.

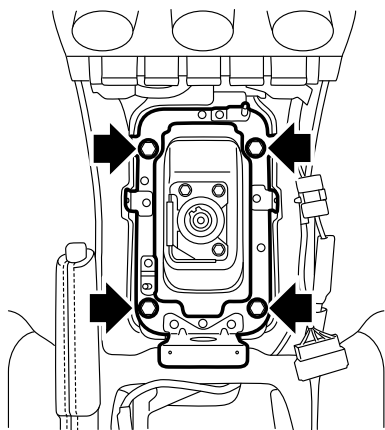
ZD-*A*




CS-10575

- 6.** Remove the plate and the boot.

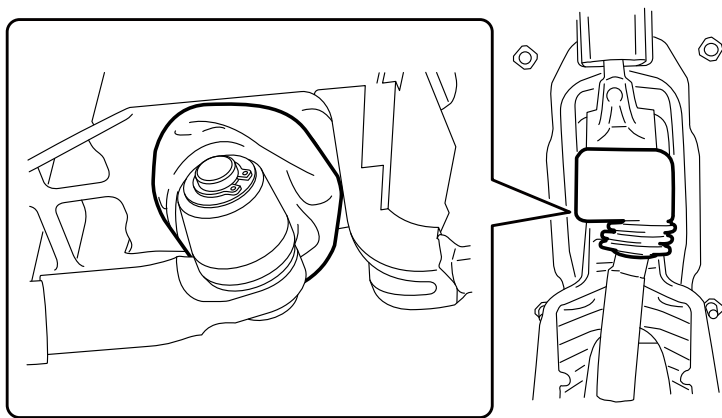
ZD-*A*



CS-10577

- 7.** Remove the propeller shaft.  [Ref. to PROPELLER SHAFT / DRIVE SHAFT / AXLE>Propeller Shaft>REMOVAL.](#)
- 8.** Turn over the boot.

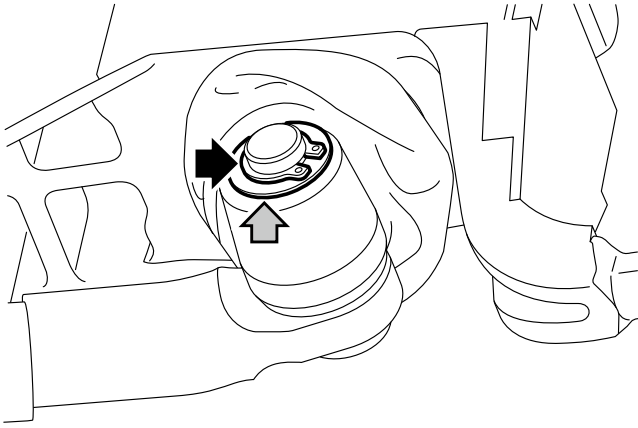
ZD-*A*



CS-10521

- 9.** Remove the snap ring and washer, and disconnect the MT gear shift lever and the MT gear shift rod.

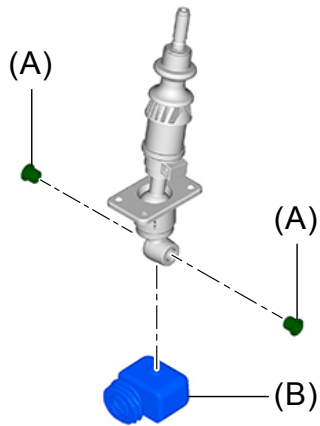
ZD-*A*



CS-10545

10. Remove the collar and the boot from the MT gear shift lever.

ZD-8AJ



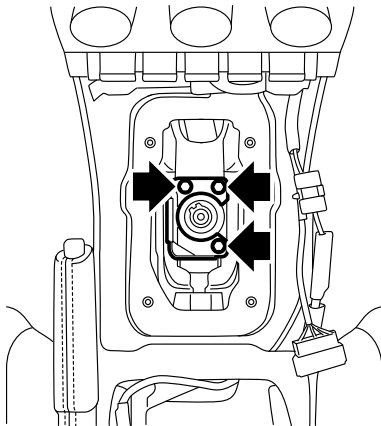
CS-10565

(A) Collar

(B) Boot

11. Remove the stopper.

ZD-*A*



CS-10578

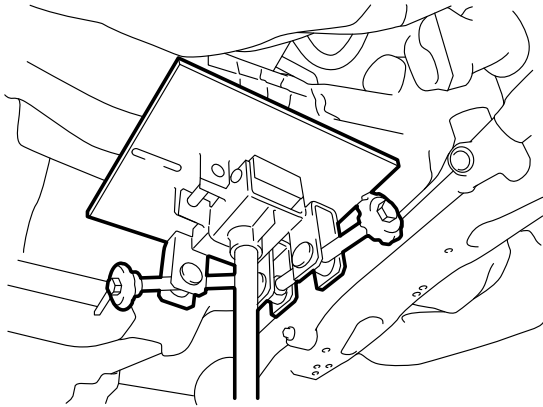
12. Remove the MT gear shift lever.

2. SHIFT RETAINER

1. Disconnect the ground terminal from battery sensor.  [Ref. to REPAIR CONTENTS>NOTE > BATTERY.](#)

2. Remove the MT gear shift lever.  [Ref. to CONTROL SYSTEMS>MT Gear Shift Lever>REMOVAL.](#)
3. Set the transmission jack.

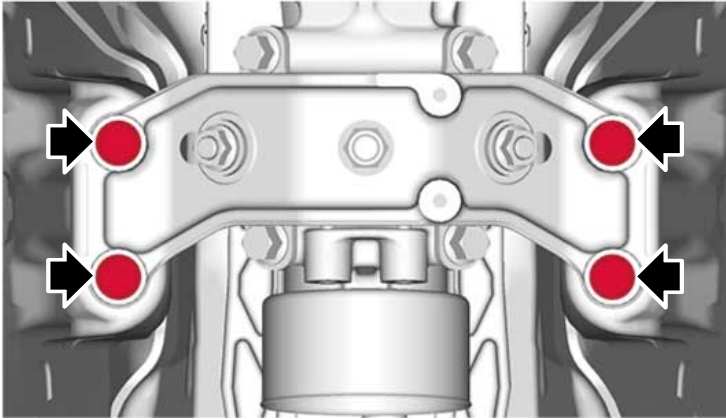
ZC-6**



MT-10239

4. Remove the bolt securing the transmission rear crossmember to the vehicle.

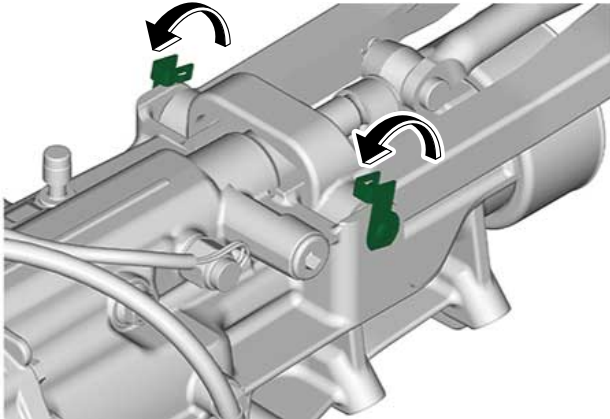
ZD-*A*



CS-10541

5. Lower the transmission jack and tilt the transmission.
6. Release the lock and remove the shift retainer pins.

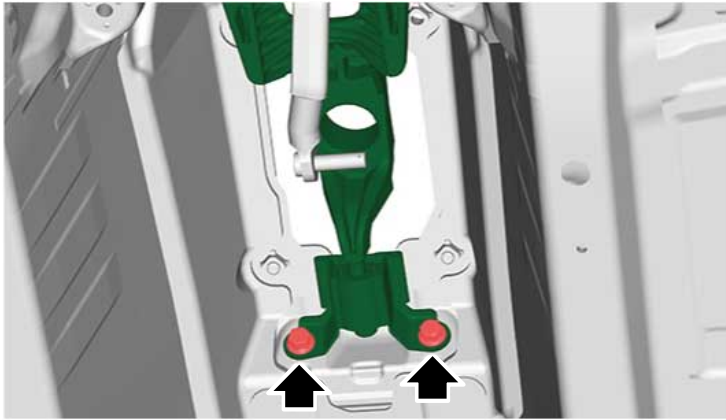
ZD-8AJ



CS-10537

7. Remove the shift retainer and the shift retainer bushing as a unit.

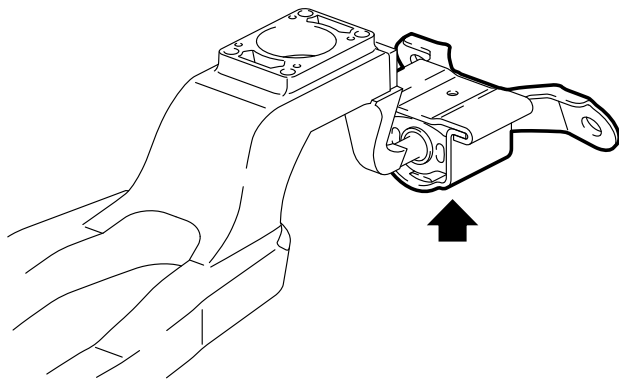
ZD-8AJ



CS-10544

8. Remove the shift retainer bushing.

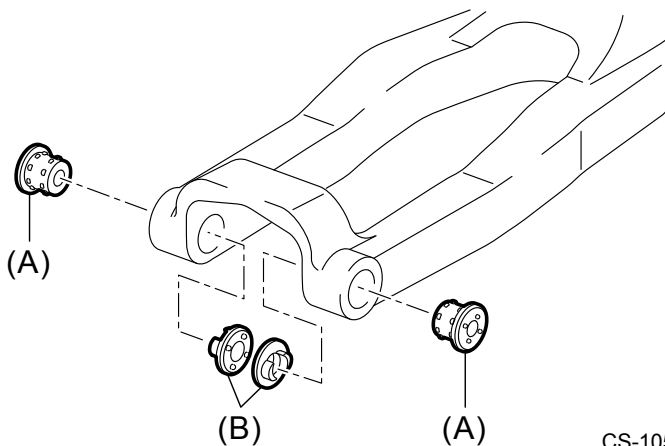
ZD-8AJ



CS-10533

9. Remove the outer bushing and the inner bushing.

ZD-8AJ



CS-10532

(A) Outer bushing

(B) Inner bushing

CONTROL SYSTEMS > MT Gear Shift Lever

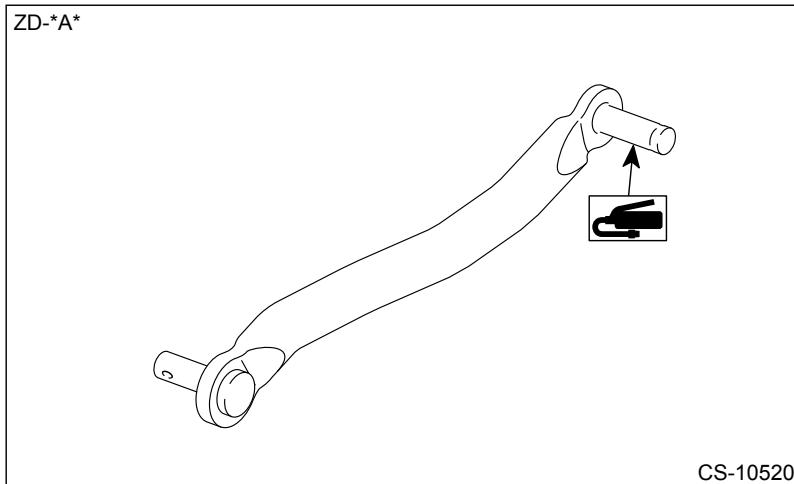
INSTALLATION

1. MT GEAR SHIFT LEVER

1. Temporarily install the MT gear shift lever and stopper.
2. Apply grease to the shaft of the MT gear shift lever side of the MT gear shift rod.

Preparation items:

Grease: Permalub ECN-9 or equivalent



3. Install the boot and the collar to the MT gear shift lever.

Caution:

Always use a new boot and a new collar.

4. Connect the MT gear shift rod using the washer and the snap ring.

Caution:

- Always use a new snap ring.
- Do not stretch the snap ring more than necessary.

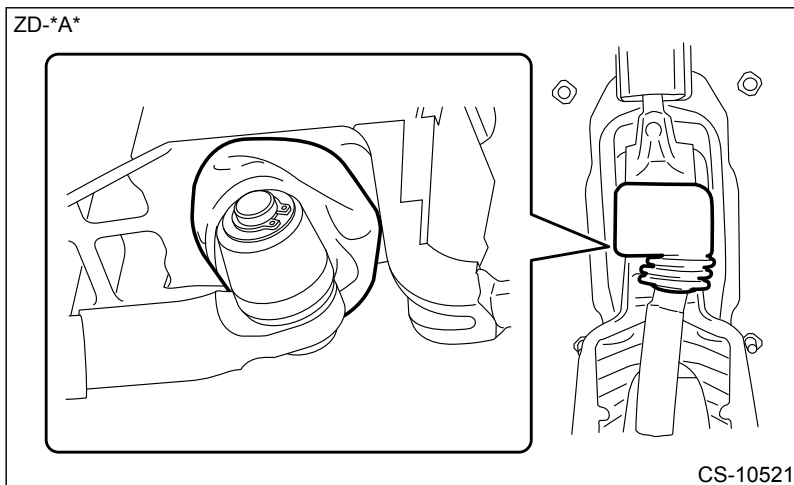
5. Check installation condition of the snap ring.


Caution:

Be sure to check installation conditions because the MT gear shift lever may fall off.

- (1) Check for looseness.
- (2) Using snap ring pliers, turn the snap ring to check that resistance is felt.
- (3) Replace the snap ring with a new part if it is found defective.

6. Place the boot.

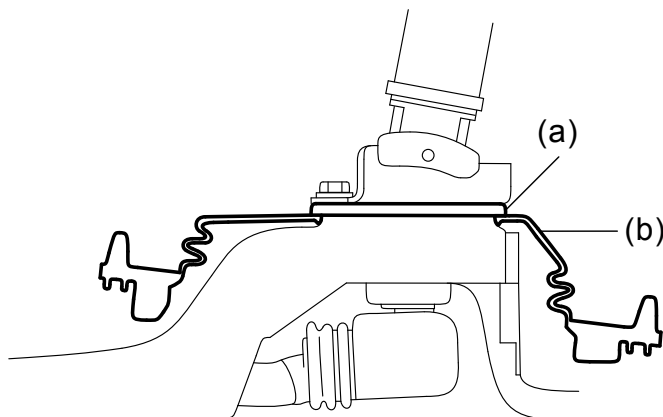


7. Install the propeller shaft.  [Ref. to PROPELLER SHAFT / DRIVE SHAFT / AXLE>Propeller Shaft>INSTALLATION.](#)
8. Install the plate and the boot.

Note:

Insert the boot (b) under the cap (a).



ZD-8AJ



CS-10564

Tightening torque:

18 N·m (1.8 kgf-m, 13.3 ft-lb)

9. Install the clip which holds the wire harness.
10. Adjust the MT gear shift lever.  [Ref. to CONTROL SYSTEMS>MT Gear Shift Lever>ADJUSTMENT.](#)
11. Install the insulator.
12. Install the cover center side and the console box assembly.  [Ref. to EXTERIOR/INTERIOR TRIM>Center Console>INSTALLATION.](#)
13. Install the shift knob by turning it clockwise.

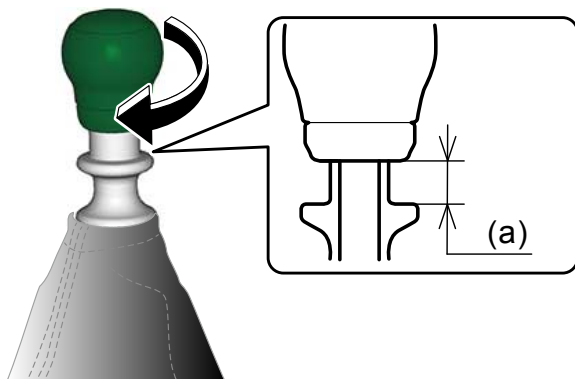
Caution:

Install it while avoiding the gap (a) between the shift knob and the slider becomes 11 mm (0.4 in) or less.

Note:

- **Tighten to the extent where it does not rotate during shift operation.**
- **Check that it can be shifted to the reverse.**

ZD-*A*



CS-10551

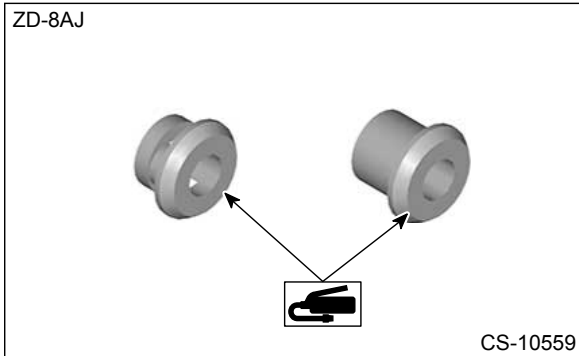
14. Connect the ground terminal to battery sensor.  [Ref. to REPAIR CONTENTS>NOTE > BATTERY.](#)

2. SHIFT RETAINER

- 1.** Apply grease to the sliding surfaces of the inner bushing and outer bushing.

Preparation items:

Grease: NIPPON GREASE NIGTIGHT LTS No. 2 or equivalent

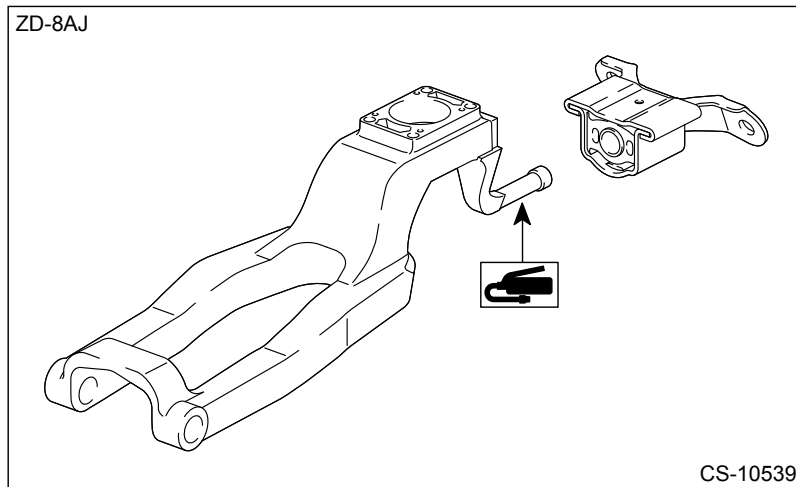


- 2.** Install the inner bushing and outer bushing.

- 3.** Apply grease to the shift retainer tip.

Preparation items:

Grease: NIPPON GREASE NIGTIGHT LTS No. 2 or equivalent



- 4.** Install the shift retainer bushing.

- 5.** Install the shift retainer and shift retainer bushing as a unit.

Tightening torque:

18 N·m (1.8 kgf-m, 13.3 ft-lb)

- 6.** Apply grease to the shift retainer pin.

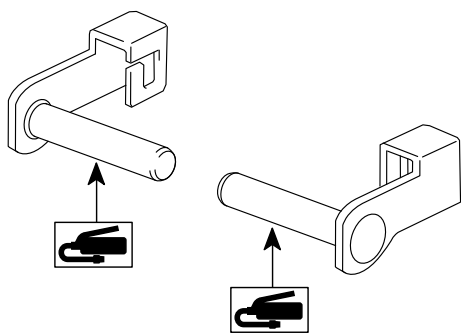
Caution:

Always use a new shift retainer pin.

Preparation items:

Grease: NIPPON GREASE NIGTIGHT LTS No. 2 or equivalent

ZD-8AJ



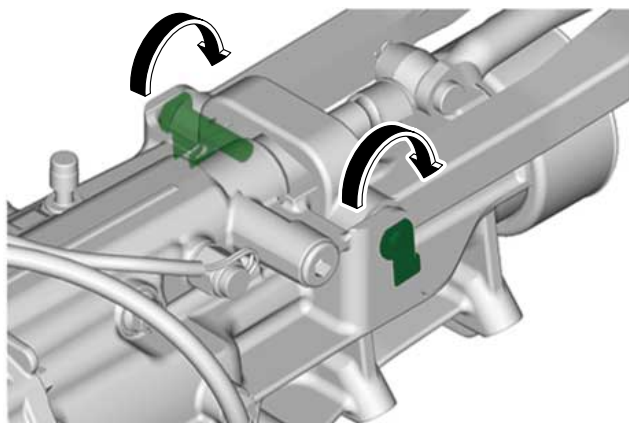
CS-10538

7. Install and lock the shift retainer pin.

Caution:

Push until the claw surely exceeds the transmission protrusion.

ZD-8AJ



CS-10540

8. Install the transmission rear crossmember.

Tightening torque:

65 N·m (6.6 kgf-m, 47.9 ft-lb)

9. Remove the transmission jack.

10. Install the MT gear shift lever.  [Ref. to CONTROL SYSTEMS>MT Gear Shift Lever>INSTALLATION.](#)

11. Connect the ground terminal to battery sensor.  [Ref. to REPAIR CONTENTS>NOTE > BATTERY.](#)


CONTROL SYSTEMS > MT Gear Shift Lever

INSPECTION

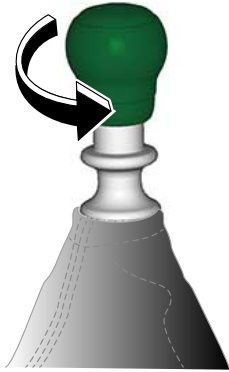
1. Check that there is no deformation, cracks or other damages.
2. Check that there is no problem when shifting the MT gear shift lever to each position.
3. Check that the MT gear shift lever returns to the neutral position.
4. Check that it is possible to shift into reverse with the slider pulled up.
5. Check that the slider returns to the initial position when the MT gear shift lever is returned to the neutral position with the slider pulled up.
6. Check that it is not possible to shift into reverse without the slider pulled up.

CONTROL SYSTEMS > MT Gear Shift Lever


ADJUSTMENT

1. Remove the ground terminal from battery sensor.  [Ref. to REPAIR CONTENTS>NOTE > BATTERY.](#)
2. Remove the shift knob by turning it counterclockwise.

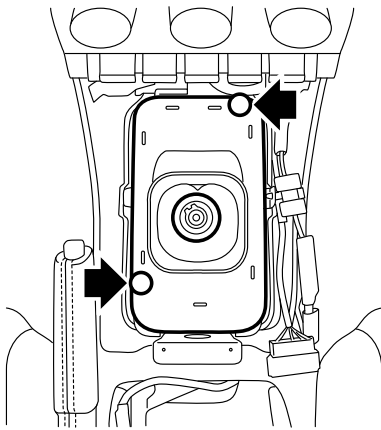
ZD-8AJ



CS-10550

3. Remove the console box assembly and cover center side.  [Ref. to EXTERIOR/INTERIOR TRIM>Center Console>REMOVAL.](#)
4. Remove the insulator.

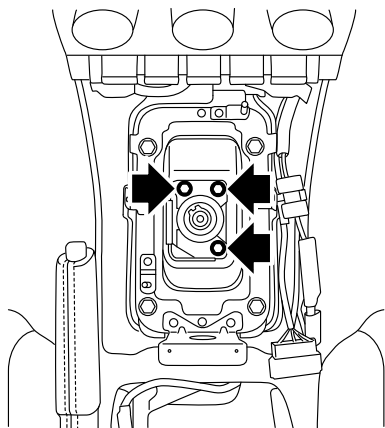
ZD-*A*



CS-10574

5. Loosen the stopper bolts.

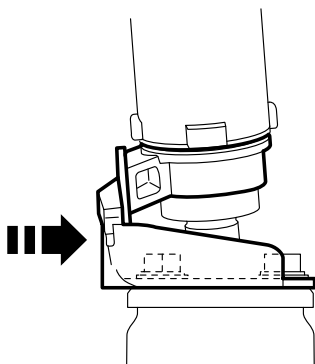
ZD-*A*



CS-10576

6. Shift the MT shift lever to the 2nd.
7. Place a shim, etc. with 2.1 mm (0.08 in) thickness between the stopper and the MT gear shift lever and push the stopper against the MT gear shift lever side.

ZD-8AJ



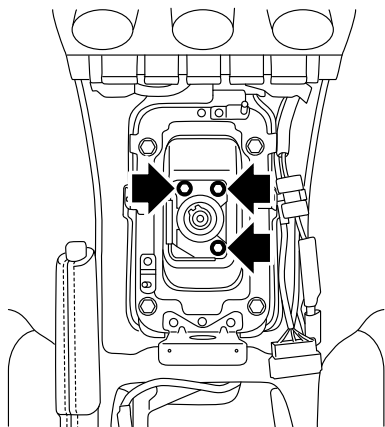
CS-10534

8. Tighten the stopper bolt while pushing the stopper.

Tightening torque:

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

ZD-*A*



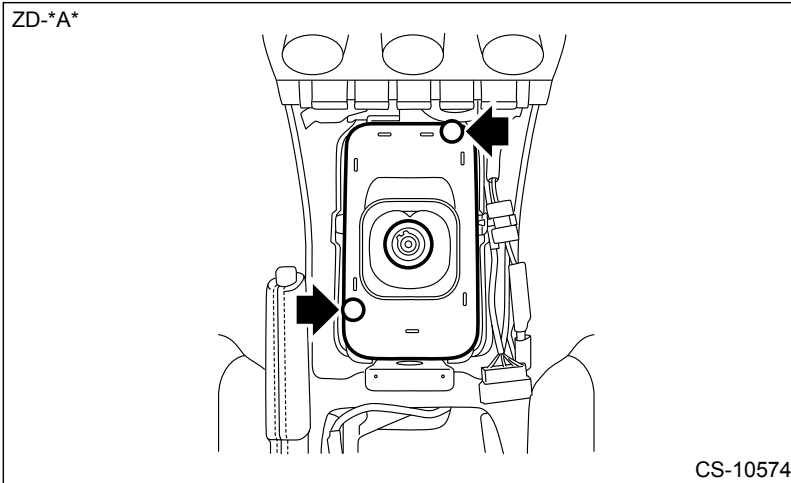
CS-10576


9. Check that shift operation from 1st to 2nd can be performed.

Note:

If shift operation cannot be performed, repeat the procedures from step 5 with a shim that is 0.2 mm (0.01 in) thinner.

10. Install the insulator.



11. Install the cover center side and the console box assembly.  [Ref. to EXTERIOR/INTERIOR TRIM>Center Console>INSTALLATION.](#)

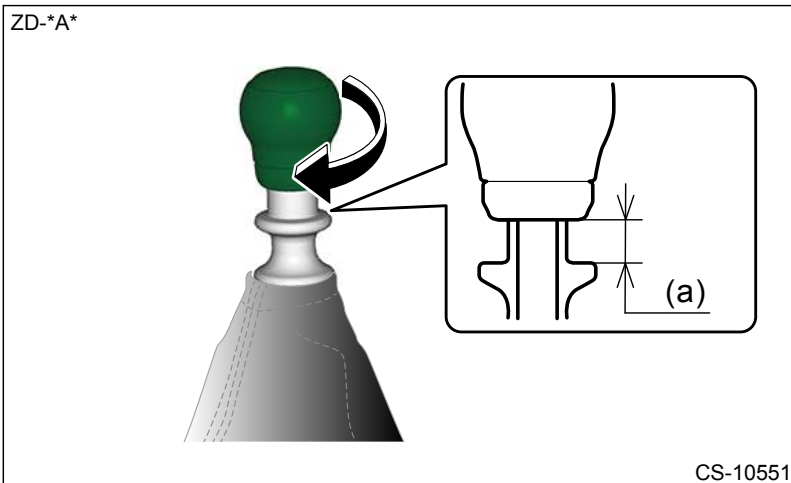
12. Install the shift knob by turning it clockwise.

Caution:

Install it while avoiding the gap (a) between the shift knob and the slider becomes 11 mm (0.4 in) or less.

Note:


- Tighten to the extent where it does not rotate during shift operation.
- Check that it can be shifted to the reverse.



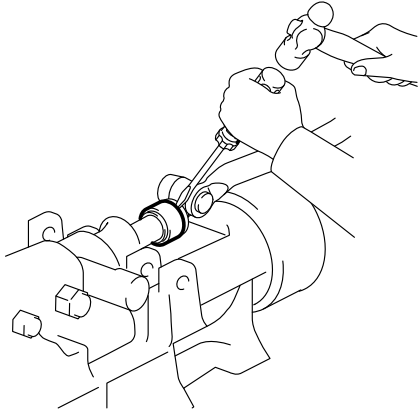
13. Connect the ground terminal to battery sensor.  [Ref. to REPAIR CONTENTS>NOTE > BATTERY.](#)

REMOVAL



1. Remove the transmission body.  [Ref. to MANUAL TRANSMISSION>Transmission Assembly>REMOVAL.](#)
2. Lift the crimped section of the clamp.

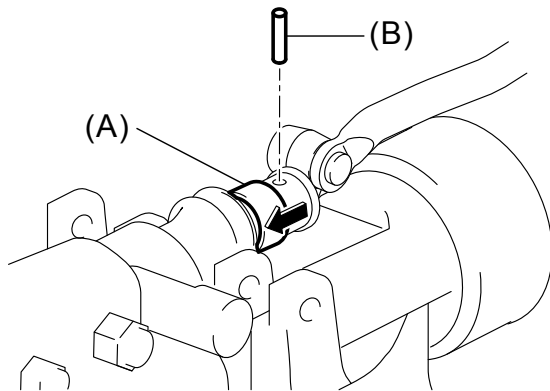
ZD-*A*



CS-10542

3. Slide the clamp to remove the pin.

ZD-*A*

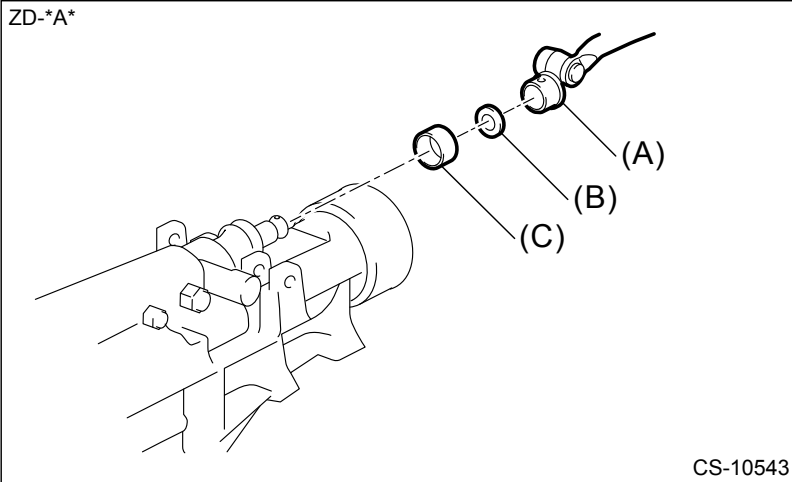


CS-10546

(A) Clamp

(B) Pin

4. Remove the MT gear shift rod, cushion, and clamp.

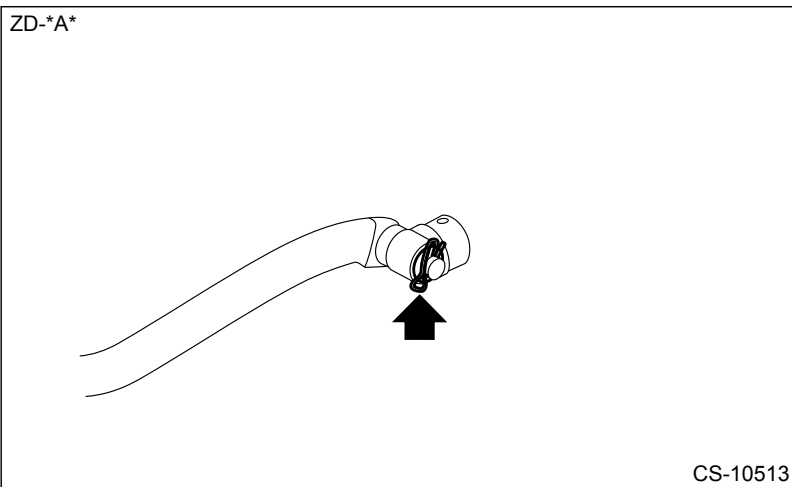


(A) MT gear shift rod

(B) Cushion

(C) Clamp

5. Remove the snap pin and washer, and then remove the joint from the MT gear shift rod.



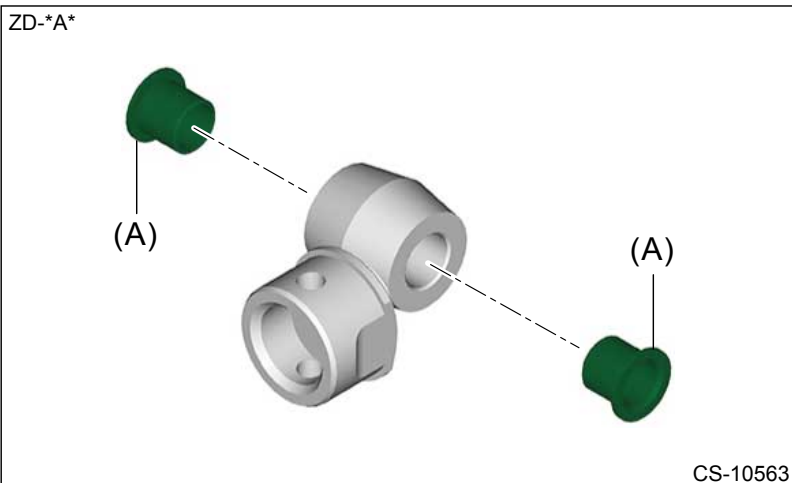
6. Remove the collar.

Caution:

Be careful not to damage the collar.

Note:

Perform this procedure only when required.



(A) Collar

CONTROL SYSTEMS > MT Gear Shift Rod

INSTALLATION

1. Using a press, press-fit the collar to the joint.

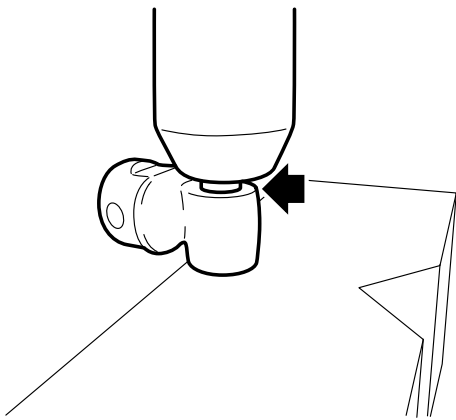
Caution:

Be careful not to set the collar at an angle.

Note:

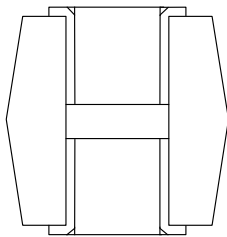
- After press-fitting, check that there is no gap between the joint and the collar.
- Press-fit the collar one side at a time.

ZD-*A*



CS-10588

ZD-*A*



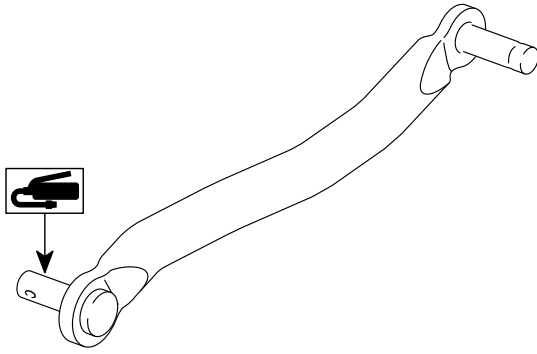
CS-10592

2. Apply grease to the shaft of the transmission side of the MT gear shift rod.

Preparation items:

Grease: Permalub ECN-9 or equivalent

ZD-8AJ



CS-10519

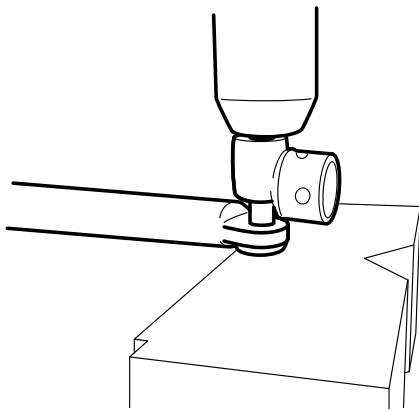
3. Press-fit the MT gear shift rod to the joint.

- (1) Using a press, press-fit until the press tip comes in contact with the shaft of the MT gear shift rod.

Caution:

Be careful not to set the MT gear shift rod at an angle.

ZD-*A*



CS-10589

- (2) Press-fit the MT gear shift rod to the joint using the ST and a press.

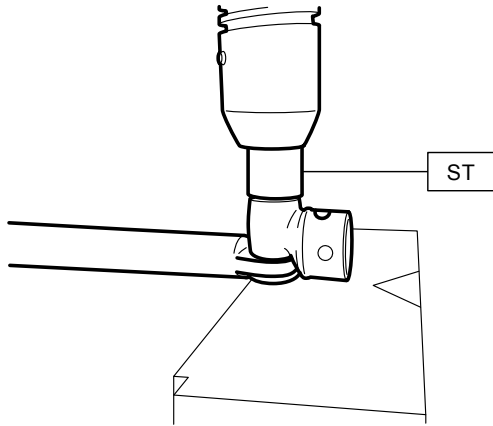
Note:

After press-fitting, check that there is no gap between the joint and the collar.

Preparation tool:

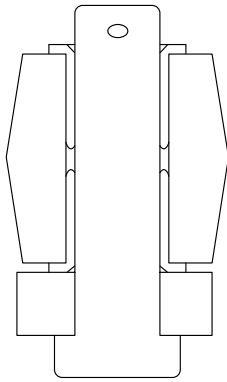
ST: ADAPTER (18362AA020)

ZD-*A*



CS-10590

ZD-*A*



CS-10591

4. Install the washer and snap pin to the MT gear shift rod.
5. Install the clamp, cushion, and MT gear shift rod.

Caution:

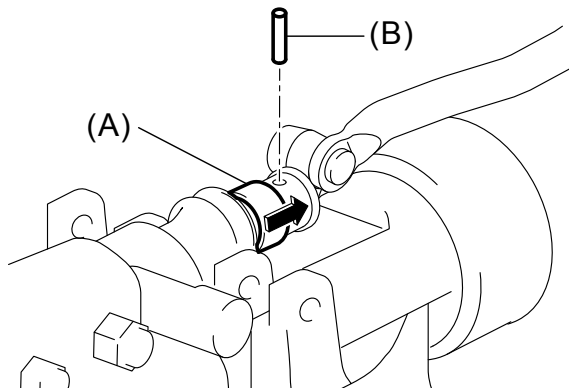
Always use a new clamp.

6. Install the pin and slide the clamp.

Caution:

Always use a new pin.

ZD-*A*



CS-10585

(A) Clamp

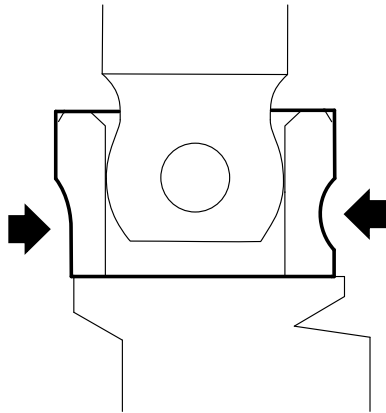
(B) Pin

7. Crimp the clamp.


Note:

Crimp along the joint shape.

ZD-8AJ



CS-10567

8. Install the transmission body.  [Ref. to MANUAL TRANSMISSION>Transmission Assembly>INSTALLATION.](#)

CONTROL SYSTEMS > MT Gear Shift Rod

INSPECTION

1. Check that there is no deformation, cracks or other damages.
2. Check for excessive rusting.

INSPECTION**1. AUTOMATIC TRANSMISSION**

Symptoms	Problem parts etc.	Possible cause
Cannot shift.	Shift lock solenoid	Faulty shift lock solenoid
	Harness for shift lock solenoid lines	Open or shorted harness in shift lock solenoid lines
	"P range" switch	"P range" switch malfunction
	Harness in "P range" switch lines	Open or shorted harness in "P range" switch lines
	Select lever main body	Faulty shift lock mechanism
	Select lever rod	Faulty select lever rod
	Transmission body	Malfunction in the transmission
Manual mode cannot be set.	Manual mode switch	Faulty manual mode switch circuit
	Harness in manual mode switch lines	Open or shorted harness in manual mode switch lines

2. MANUAL TRANSMISSION

Symptoms	Problem parts etc.	Possible cause
Cannot shift.	Transmission body	Malfunction in the transmission
	MT gear shift rod	Faulty MT gear shift rod
Hard to shift, or does not shift. (During operation of 1st — 2nd)	Stopper	Improper stopper adjustment